A Little Book of Perennials

Alfred C. Hottes

THE
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.50

A double border of great charm

A Little Book *of* Perennials

By

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PREFACE

THIS "Little Book of Perennials" is the second of a series and should serve as a companion to "The Little Book of Annuals." In the "Garden Guide" many of these flowers were mentioned, but there has been a demand to know more about them. The catalogs of the commercial growers of perennials should serve as a supplement to this book for they will deal more especially with the varieties. Each grower will carry his own varieties which he has selected for color, size or habit, and as these varieties are being constantly improved the catalogs are invaluable.

An effort has been made to present only the most outstanding perennials, flowers which are either so strong that they almost care for themselves, or so exquisitely charming that they warrant any amount of time in rearing them properly.

The author was assisted by Miss Egeva Wiseman in much of the work involved in compiling this book. To her he acknowledges a goodly share of the credit that may come to it. He owes a debt to the many garden lovers who have told him their experiences—their successes in culture and propagation. He hopes to enjoy the suggestions of his readers and will welcome their corrections, additions and criticisms.

ALFRED C. HOTTES.

Columbus, O., February, 1923.

THE PERENNIAL GARDEN

PLANTS which live year after year in the garden are known as perennials. They include some of the old-fashioned flowers such as Peonies, Phloxes and Larkspurs. It is a compliment to a flower to call it "old-fashioned," for that indicates that the flower was popular with our grandparents and was so worth while that we grow them even today. Each nationality coming to our shores has brought with it the old favorites of the ancestral home. Here these flowers have often become veritable weeds. The Eglantine, or Sweet Brier Rose, is thought by many to be a wild Rose, but not so. It was introduced by the English, perhaps even the Pilgrims. Such also is the case with Bouncing Bet, Tansy and the Orange Day Lily. Hundreds of real wild flowers are seldom considered such because they have been in our gardens for years. The Bee Balm, Kentucky Blue Bell, Helen's Flower and the Blanket Flower are examples of native flowers found about our own country in woods and gardens.

But of the vast array of flowers we should give a little thought to their origin. Someone has greatly admired each of our plants where they have transplanted them from the wild forest, the green meadow, the shelving mountain ledge, the rocky brookside, the watery lowlands or the level prairies. Someone has brought these flowers from flowery Japan, tropic Africa, or from the home woodlot. Many have responded to care, but not a few others have had to be carefully bred. Men have crossed and recrossed these plants, saved their seeds, fondled their offspring, chosen the best, and finally have, perhaps, named them for friends or other men whose work or interest in flowers has earned for them this signal honor.

Someone has truly written that the most beautiful gardens are in the mind, not in the soil. The flowers in your own garden are always more interesting than those in the gardens of another. They are the results of your labor; there is the enjoyment of ownership; they are your flowers.

Who is there with a flower garden who does not share these blooms with his neighbor? We should never fear to break up our clumps of plants and give to our friends. Most plants need such division at regular intervals. That garden becomes interesting which is made up

of plants given you by friends; each of these plants deserves careful culture to bring it to such a state of perfection as will indicate your appreciation of your friend, the giver. A pink Larkspur becomes more than a Larkspur—it is a memory of Mrs. Neighbor or Mr. Sharer.

The progressive garden lover should each year add some of the best kinds of plants to his garden. We should note who sells the best, who has contributed to the improvement of your favorite flowers and purchase from them. What are the few cents in initial cost? Some kinds will increase tenfold in a year. Many seedsmen, flower specialists and nurserymen, send you their catalogs year after year at considerable expense. They are anxious to render you every service. They are encouraged to find that their efforts are not in vain and that people are becoming increasingly interested in the better varieties. When you ask for Peony Thérèse and Iris Isoline, they are pleased. They know that you have passed the stage where "just Peonies and just Iris" are sufficient, because you are inquiring for some of the improved varieties.

An arbor to frame portions of a perennial border. (See page 15)

THE PERENNIAL BORDER

PERENNIALS may be planted in any situation except hit and miss throughout a lawn. Pity in plenty should be showered upon the man who must cut a lawn in which a Peony, a Sweet William and a Phlox have been planted in the sod. Furthermore, it is not in conformity with good taste to make small square, circular or star-shaped beds. Someone has described such beds specked about the greensward as "an Italian pastry cook's idea of the beautiful." Let us then have masses of our garden favorites bordering the driveways, the fences, the lawn and the dooryard, or assign a definite garden area and there plant our flowers.

PLANNING

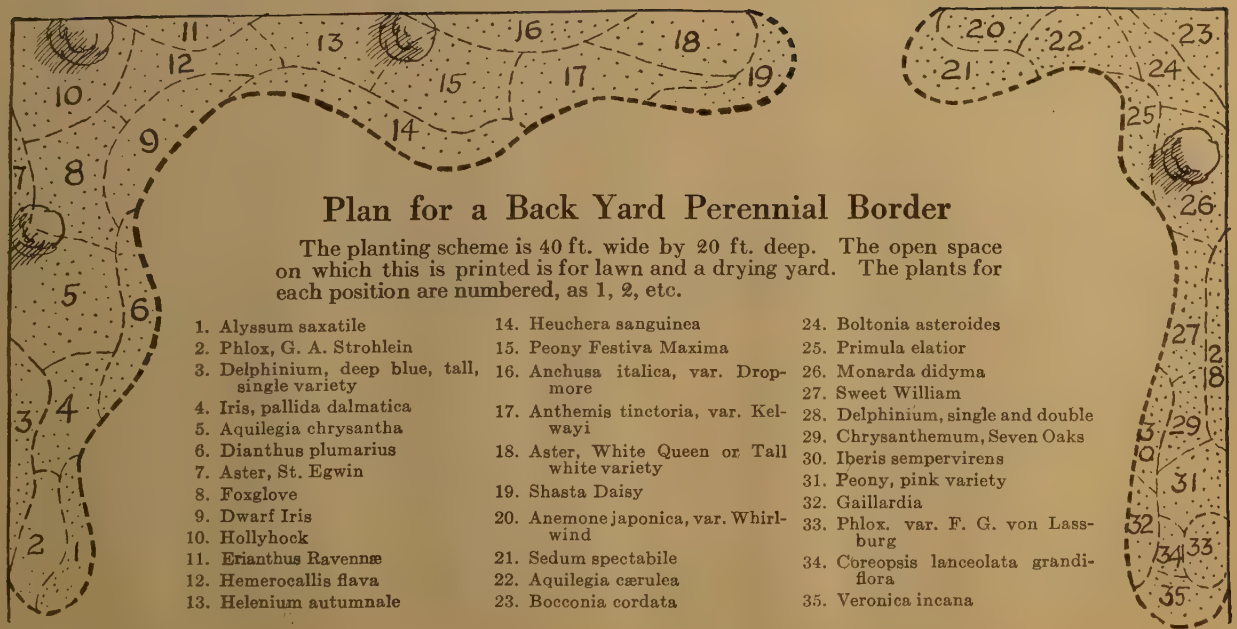
A border may be formal or informal; the plants may be set in definite ribbon-like bands or placed in natural clumps. Generally, the latter method is to be preferred unless we are planning a prim garden of geometrical form on a large estate. Assuming, then, that enough space is available, it is interesting to have two borders separated by a grass, gravel or stone walk. To have the greatest satisfaction the border should be planned on paper. Some persons will say that they are gardeners, not draughtsmen, but no drawing ability is necessary. The idea of sketching is merely to place the plants properly.

HEIGHTS

Obviously, the tall plants should be at the back of the border, the dwarf edging plants in the front and those of medium height tucked in between the two extremes. Nevertheless, this rule should not be followed too strictly, otherwise the result will give a border which will be too monotonous. Allow bold groups of tall plants to come to the front of the border. For the best effects in the Springtime some of the earliest dwarf plants may be planted toward the center to give a mass of color throughout the width of the border.

WIDTH

Having mentioned the word "width" it may be said that the border should be at least 4 feet wide; otherwise the grass roots will



Plan for a Back Yard Perennial Border

The planting scheme is 40 ft. wide by 20 ft. deep. The open space on which this is printed is for lawn and a drying yard. The plants for each position are numbered, as 1, 2, etc.

1. Alyssum saxatile
2. Phlox, G. A. Strohlein
3. Delphinium, deep blue, tall, single variety
4. Iris, pallida dalmatica
5. Aquilegia chrysantha
6. Dianthus plumarius
7. Aster, St. Egwin
8. Foxglove
9. Dwarf Iris
10. Hollyhock
11. Erianthus Ravennæ
12. Hemerocallis flava
13. Helenium autumnale
14. Heuchera sanguinea
15. Peony Festiva Maxima
16. Anchusa italica, var. Dropmore
17. Anthemis tinctoria, var. Kelwayi
18. Aster, White Queen or Tall white variety
19. Shasta Daisy
20. Anemone japonica, var. Whirlwind
21. Sedum spectabile
22. Aquilegia cærulea
23. Bocconia cordata
24. Boltonia asteroides
25. Primula elatior
26. Monarda didyma
27. Sweet William
28. Delphinium, single and double
29. Chrysanthemum, Seven Oaks
30. Iberis sempervirens
31. Peony, pink variety
32. Gaillardia
33. Phlox, var. F. G. von Lassburg
34. Coreopsis lanceolata grandiflora
35. Veronica incana

intrude and rob the flowers. The border may be 12 feet or wider, in which case larger masses of flowers may be planted. Nature produces its flowers in profusion and so must we if our borders are to give us the maximum satisfaction. Good, big eyefuls of color are impressive; little dabs of color seem puny and artificial.

BACKGROUNDS

It is advisable to have a background for our perennials, especially behind the shorter growing sorts. A lattice fence, a border of shrubs or a hedge will serve to set off the colors of the flowers. None but the most robust perennials should be planted directly in front of a hedge or border of shrubs, for the flowers are sure to be robbed of food and moisture. Leave a space of 2 feet between the hedge and the bed of flowers. Shrubs and conifers may be planted here and there in the perennial border to advantage in order to produce bays of tall, green foliage masses. The illustration on page 12 shows various sections of a border framed by the arches of a pergola. When there is a border on both sides of a walk much interest is added by arches across the pathway. There need not be more than one or two in a border 50 feet long. Too many arches would tend to detract from the border of flowers.

SEASONS

Shall the truth be told or shall the usual advice be given again? The facts are these: it is extremely difficult to plan a border of any size which shall display a neat, tidy appearance and at the same time shall be in bloom from April until frost. There will be unsightly spots where some perennial has passed its season and where the neighboring sorts have failed to cover the traces of the earlier sort. However, it is possible by planning, care and transplanting to maintain such borders of almost uninterrupted bloom.

Some persons prefer to have an entire border giving an attractive Spring, Summer or Fall effect; others have pretty spots for each season.

There are optimists, however, who have planted the border for an all-the-year-round effect and who fail to notice the bare spots, so charmed are they by the choice flowers which are at any one time in bloom. They are the same persons who do not say "Every Rose has its thorn"; they say "It is remarkable that some thorns bear Roses."

Relative to seasons it must be said that care should be exercised not to have too many of the early flower sorts toward the front unless they retain their foliage until Fall. It is better to plant certain rather permanent foliage plants as an edging.

A border cut through an orchard. Colors vie with each other and even detract our attention from the building in the background.

COLOR

The color arrangement should be pleasing. Is this not a trite statement? And yet, what is pleasing to one is a jar to the tastes of another. Rather love flowers and plant a riot of colors than fear to infringe upon good taste by avoiding to plant. When your taste improves you can transplant easily.

Read what Wm. Saville says about colors. He was speaking before the Florists' Club of Philadelphia:

"It should be the aim in starting (as you enter the border from either end) to have flowers of light coloring and foliage plants of gray-glaucous or bluish leaf. As one passes to the center the color is allowed to become stronger and stronger, until in the center position we have one strong color vying with another. There is a craze (which I have not seen successfully carried out) to have borders all blue; or graduated from white to pink; to golden; to bronze and up to crimson; but, in my opinion, a mixed border is preferable."

W. J. Potter, of the Parks Department, Toronto, in a paper read before The Canadian Horticultural Association once said:

"Color planting is more suitable for large gardens, where the eye rests on the whole, or greater part of the scheme. It also includes the choice

and use of two colors or combinations, such as pink and blue (light), cream and purple, golden yellow and deep blue, or orange and medium blue; or a gradual blending down from an intense color, using several intermediate shades. The yellow and orange shades always look well and if separated in good, generous blocks, cannot help but be effective. Blocks of white flowers or green ornamental foliage will act as a foil where it is necessary to use strong colors in heavy masses, reds and scarlets for example, that is if both meet the eye at the same time. The blue Delphiniums, white and pink Hollyhocks afford an example of good tones, but keep the reds and maroons away. Gypsophila and purple Delphinium form an esthetic combination. Place Golden Coreopsis against heavy foliage and deep shadows. Plant Foxgloves among an underground of dwarfer material or among evergreens in g roups. The composite flowers offer many delightful combinations. One cannot err in their use, as the colors, for the most part, can be called relative or harmonious. Examples include Heliopsis and Callimeris incisa, Stokesia and Shasta Daisy. These can be used also with Golden Anthemis. Rudbeckia purpurea and Rudbeckia fulgida or subtomentosa harmonize, and so on "ad infinitum." Collections of Phlox show off to much advantage if separated as to color, the scarlets from the magentas and the pinks from the purples. Use the white forms between."

Whole books have been written dealing with color in the garden, but these few remarks must suffice. Plan a special color garden if your fancy tells you to do so. In any case, avoid buying mixtures of flower seeds; buy packets of colors which harmonize and make your own mixture. Avoid variegated flowers; they appear muddy in the distance. Avoid combining the various reds—the scarlets with the crimsons—unless separated by masses of white flowers or foliage.

GARDEN OPERATIONS

"NOTHING without labor" is the motto of the garden, although it is true that some perennials require but little care. He who loves the garden enough does not think of the labor but remembers only the triumph of having lusty, flowering plants. He prepares his soil properly, realizing that the camouflage of having a good surface soil, but a poor soil beneath, fools persons but not plants. He talks little about the bugs; he sprays them.

PREPARATION OF THE SOIL

Perennials must remain rather permanently in one place and for this reason, if for no other, the soil should be deeply and thoroughly prepared. Usually good soil extends down only about a foot, yet many of our perennials are deep rooting. For example, the leguminous and the mallow plants prefer to strike downward. Most of our plants will suffer less from drought in Midsummer if the roots are in the cool,

moisture-laden soil beneath. Therefore, dig the soil out to a depth of 18 to 24 in. and incorporate some well rotted manure into the dead subsoil.

PLANTING

Some say it is best to prepare the border in the Fall, leaving the soil rough and subject to the freezing action during the Winter, after which it may be leveled and planted in the Spring.

Sweeping statements cannot be made about such diverse plants as are here discussed, but it would seem that with the exception of the most tender sorts, early Fall planting is advisable. There is not as much to be done in the garden in the Fall. The plants, if transferred early enough, will become thoroughly established by Spring and will start into growth earlier and produce stronger root systems which should enable them to withstand drought. In Autumn the soil works more easily than in Spring, and retaining its Summer warmth, induces root action. Another point worthy of consideration is the fact that many times the nurseries are unable to supply us with just what we want if we order too late in Spring, as they frequently are sold out of popular varieties. Late Fall planting is to be avoided because the plants should be thoroughly established before freezing, as resting plants do not take hold of the soil.

In the descriptions of the perennials found in this little book the best time for transplanting is usually given. The plants with evergreen foliage are usually best moved in Spring, as are also the less hardy sorts.

NOURISHMENT FOR PLANTS

Plants feed from air as well as soil, but it is within our power to improve the soil nourishment only. It is generally agreed that the physical condition of the soil is more important than its actual chemical nature. A soil in good physical condition is well supplied with decayed manure and is fibrous. It is easily worked and is teeming with bacteria which work to release the plant food which most soil contains. The big function of manure added to soil is to give the soil a good texture and assist in releasing its hidden chemical resources. The three main chemicals needed by plants are nitrates, phosphoric acid and potash. Unless these elements are soluble in water they are not available to the plants. Much of the value of fertilizers is to unlock these elements.

Lime Not a Fertilizer. The value of lime to soil is not that it adds plant food, but that it combines with other substances and becomes useful to plants. It is of great value for other reasons as well. It makes heavy soils looser, it makes sandy soils more compact, it

sweetens sour soils and it increases the number of bacteria. There are few gardens which have been cultivated for a period of years that would not benefit by an application of lime every three or four years.

Nitrogen Fertilizers. Animal manures contain nitrogen and are generally beneficial to soils. Well decayed manure is usually advised because plant roots are frequently injured by contact with fresh manure. Manure used as a Winter mulch may be worked into the soil in the Spring, or manure may be placed in water and the manure water may be applied to the plants.

Nitrate of soda, ammonium sulphate and such nitrate fertilizers are strong drugs for plants. They add nothing to the physical condition of the soil but do supply a large quantity of nitrogen. Nitrogen causes growth and larger flowers. These chemical fertilizers are dissolved in water and applied to plants while they are growing. Too much nitrogen causes excessive growth, delayed flowering and weak-stemmed plants. These chemical nitrogen fertilizers may be applied at the rate of one teaspoon to a gallon of water to make plants greener, more rapid in growth and to increase the size of the flowers; used for this purpose when the plants come into bud. Do not apply too strong nor get the solution upon the leaves of the plants. Remember that it is a drug and should be used accordingly.

Bonemeal. Bonemeal is one of the best general fertilizers for flowers because it contains not only nitrogen but phosphorus. It is useful for all sorts of flowers and may be scattered over the soil so that it is white. Cultivate this into the soil and the value of this fertilizer will last through the season. There is no danger in applying too much.

Wood Ashes. The third great element, potash, is found in abundance in unleached wood ashes. Most soils contain quite enough potash, but if one has some wood ashes it may be used with benefit about the flower garden. A light covering of the soil, hoed in, will be sufficient.

CULTIVATION

Perennials usually pay us for care by producing larger blooms borne more continuously throughout the season. Few plants do well in soil which is allowed to bake in a stiff crust at the surface of the soil. It is well to cultivate them with a hoe or small tool in such a way that a loose layer of soil surrounds each plant. Air enters the soil, the roots strike more deeply, the weeds are kept in check and less water need be applied to the plants when there is, what the gardener calls, a dust mulch about the plants.

In lieu of cultivation a mulch of manure or lawn clippings may be placed around the plants.

WATERING

If the soil is properly prepared and cultivated water is only needed in the perennial garden during the most severe droughts. Many plants may be encouraged to bloom a second time if they are watered thoroughly and fertilized. Water plants leisurely, giving each clump a good, long drink. Merely wetting the surface soil is injurious to the plants because it coaxes the roots to the surface soil and makes them susceptible to the hot sun which will parch these feeding roots. Furthermore, the benefits of cultivation are destroyed by daily sprinkling the surface of the soil.

STAKING

Staking perennials. Note the method of tying the heavy cord about the stake first. This insures the support from slipping down.

The taller and more slender growing plants need stakes. Too commonly we note stakes in greater evidence than plants. Make them inconspicuous by painting them green, and place them in the centers of the clumps so that the growth may appear perfectly natural, not bundled. Lower growing perennials, such as Achillea The Pearl, which are apt to sprawl about the garden, are best supported by placing twiggy branches of shrubs and trees among the plants into which the shoots may grow.

No garden is quite as pretty as it should be when the plants need stakes and do not have them or when the method of supporting the plants is artificial in appearance.

SEED PODS AND WITHERED FLOWERS

The hardest work a plant performs is to produce seed, and so it is ever wise to prevent seeding, thereby continuing the season of bloom. The wise method is to burn the old flowers as they harbor thrips, a minute insect which destroys the beauty of many flowers. Besides this matter of economizing the strength of the plants, gardens going to seed are untidy; they show want of care.

PROTECTION

Four factors are accountable for the winterkilling of perennials and the main one is not the extreme cold. Drying winds are especially detrimental to those which hold their foliage through the Winter. Water standing upon the crown will kill most perennials. The alternate freezing and thawing of the soil will cause much damage, because it causes them to be lifted from the soil. Especially is this true of plants set too late or of those plants having few fibrous roots.

Except when diseases are rampant in the garden, the tops of the plants should not be removed until Spring because they tend to protect the plants by catching the snow. Leaves are frequently used as a protecting material but they are harmful and actually smother the plants unless the border is first covered with rough material so that they cannot pack tightly over the crowns of the plants. Evergreen plants, Sweet Williams, Hollyhocks and such plants, are easily protected if evergreen boughs are used. Remember that plants need a parasol as much as they do an overcoat. Manure serves as a good protection. However, it should be well decayed or strawy, not lumpy and compact.

The protection is best applied *after* the ground is frozen. The plants will then remain frozen. A mulch applied too early will cause the perennials to make a soft growth during the warm days of the Fall.

It is well to loosen but not remove the mulch on the warm days of early Spring. Take off the mulch when the date of the last killing frost is passed.

INSECTS AND DISEASES

PERNICIOUS, vicious, obnoxious and throughly bad are the pests and diseases of our perennial garden. The control of insects and diseases has been mentioned under the plants affected, but here must be stated some general facts and a few standard formulæ given for insecticides and fungicides.

INSECTS

Two big groups of insects bother our flowers: Those which chew holes in the leaves, flowers and stems—the caterpillars, "worms," slugs, cut worms—for these stomach poisons are used; and those which merely pierce through the tissues of plants and suck the juices from them—aphids, lice, leaf hoppers—for these contact insecticides are used. The insect must actually be hit, in which case it is smothered.

An insecticide which kills chewing mouth-part insects does not necessarily kill those with sucking mouth-parts.

STOMACH POISONS FOR INSECTS WHICH EAT

Arsenate of Lead. This is the best one. It comes in powder and paste form and is used at the rate of 1 oz. of paste or ½ oz. of powder to 1 gal. of water. Apply as a spray. Soap may be added to help the spray to stick to the plants. The powder may be dusted upon the infested plants.

Poison Bait. For cut worms, grasshoppers and insects which are difficult to locate, concoct a delicious death bait for them. Mix about a teaspoon of arsenate of lead, a tablespoon of molasses and a little water to each handful of wheat bran. Place a tablespoonful here and there about the garden just before dark to kill cut worms. There is no danger of killing birds with the bran if it is placed under a shingle or a piece of wood where they cannot reach it.

CONTACT INSECTICIDES FOR INSECTS WHICH SUCK

Nicotine Extract. Nicotine is death to the Rose lice or any other lice or sucking insects. It is purchased in a concentrated from and should be used according to the directions upon the container in which it is purchased. Soap added to the mixture will help it to adhere to the bodies of the insects.

DISEASES

Plants are diseased when their normal activities are not functioning properly or when they are the prey to fungi and harmful bacteria. The plants most crowded and not growing properly are most seriously affected. Sunlight and proper air circulation are great preventives. Wet seasons favor diseases. Diseases are more easily prevented than cured. It must be remembered that in killing a disease we are confronted with the problem of killing one plant—the disease—without killing the plant affected with this disease. Preventing disease consists in refraining from planting any plant in the same spot year after year; it consists further in the destruction by burning of any part of the diseased plant; together with proper spraying. Spraying with a fungicide may kill the fungus, but it never cures the leaf, flower or stem affected. Its value lies in preventing the spread of the disease to other parts of the plant. The control of fungous diseases depends generally upon the use of copper and sulphur.

FUNGICIDES

Powdered or Flowers of Sulphur. This is useful in controlling mildews, which are surface diseases characterized by a whitish powdery

appearance of the plants. If powdered sulphur is placed in a piece of cheesecloth and sifted over the plants early in the morning when the dew is on the plants, mildew can be checked from spreading. The use of sulphur is more effective when the sun comes out on the day of application, because the heat of the sun vaporizes the sulphur. It may be needless to remark that the sulphur in no case should be burned. Burning sulphur is most destructive of plant and animal life.

Bordeaux Mixture. Useful for Peony bud rot, Phlox mildew, Hollyhock rust and many other diseases of perennials. It has the bad fault of leaving a bluish white appearance upon the plants. Its use is therefore confined to the early stages of growth and may be sprayed upon the soil in March and weekly thereafter until the plants become unsightly. Some persons believe, however, that a slightly white plant is better than a diseased or dead one and always spray with Bordeaux mixture.

Bordeaux mixture may be purchased already prepared. It is most easily handled. The amateur who makes his own loses rather than gains. To make this fungicide we use 1 oz. copper sulphate (blue stone) and a little over 1 oz. of hydrated lime to 1 gal. of water. Dissolve each, the lime and the copper sulphate, in a quart of water before mixing the two. It is better to have too much lime than too little.

Ammoniacal Copper Carbonate. This is used for the same purpose as Bordeaux mixture but is not quite as effective. It does not leave a precipitate upon the foliage. To make a small quantity, dissolve 5 drams of copper carbonate in as much ammonia as is needed (usually one pint). This stock solution, if bottled, will keep. It is sufficient to make 10 gals. of spray when water is added.

PROPAGATION

ONE of the most fascinating things of a garden is the propagation of our favorites, whereby we may increase the number of plants to be set in other parts of the garden. We always require a few extra plants to fill in bare spots and we must have some young plants to give to our flower loving friends.

Perennials may be easily propagated from seed, division, cuttings and layers.

SOWING SEED

Annuals are raised from seed because it is the simplest method of raising the plants, and for the same reason some perennials are also

grown from seed. However, many perennials are not propagated by this method because they are hybrid in nature and do not come true to the variety. Peonies, Irises, Phloxes and scores of others are failures when grown from seed, except for those who are interested in seeing just what the result might be. Furthermore, it takes a long time to get some perennials to bloom when raised from seed.

Nevertheless, for the scores which are not good, there are hundreds of perennials which are highly successful.

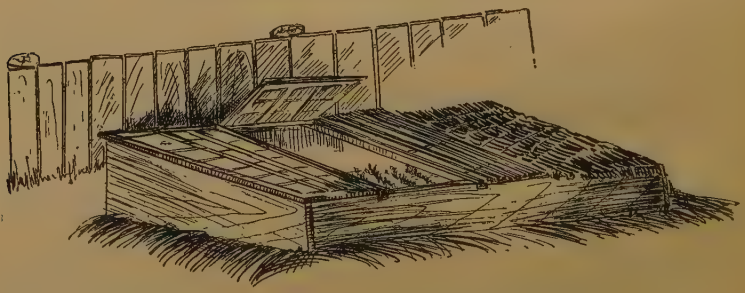
TIME TO SOW

In order that we may have large plants for our gardens, the seeds are best sown in May, June or July, unless otherwise noted in subsequent notes under the alphabetical list. Certain plants make little growth when sown late; certain others germinate slowly. Gaillardias, Shasta Daisies, Chinese Larkspur, Platycodon, Hibiscus, Iceland Poppy, Lychnis and some other perennials bloom the first year from seed if sown in early Spring; most other perennials do not.

Forget-me-nots, English Daisies, Hollyhocks, Oriental Poppy, Sweet Williams and Pansies are best sown in August, otherwise the plants are apt to become too large for convenient handling in the Spring.

THE WAY TO SOW

Those persons who would raise perennials from seed should have a coldframe. The well prepared soil in the frame should be several inches above the soil outside the frame so that the frame may have perfect drainage. After sowing the seed thinly in rows it should be covered with sand, leafmold or fine soil, the depth of covering to depend upon the size of the seed. Fine seed should be covered with a piece of burlap but no soil. Large seeds may be safely covered twice their diameter.



Perennials in a coldframe.

Water the frame with a sprinkling can. Cover the frame with the sash and shade it with cloth or whitewash. Raise the sash a few inches when the sun is bright. According to the species the seed will germinate in from four days to several months.

CARE OF SEEDLINGS

Many of the seedlings will be very small but if they are crowded they should be transplanted when they have produced a couple of leaves. Allowing the sash to remain closed during hot weather, keeping them shaded on dull days, and letting the seedlings stand too closely will result in damping-off, a disease very destructive to young seedlings. The smaller sort of seedlings and those of the less hardy species of plants should be transplanted to another part of the frame so that they stand 3 inches to 5 inches apart. The seedlings which are large, rapid growing and hardy may be transplanted to the open soil where they remain for the Winter, providing this is done before September.

The hot days of Summer will necessitate frequent watering of the seedlings. Let the watering be thorough.

DIVIDING PERENNIALS

Usually perennials are more easily propagated by division than by any other means. This is true of certain of the more rampant growers, especially the hardy Asters, the perennial Sunflowers, Heleniums, Achilleas, Boltonias, Hardy Chrysanthemums, Shasta Daisies and Sweet Williams. Certain other perennials are impatient of being moved and seem to thrive for years without being disturbed; namely, Peonies, Gypsophila, Bleeding Heart, Lupinus, Papaver, Gas Plant, Asclepias, Adonis, *Anemone japonica* and Tritomas. On the other hand, Phlox, Iris, Columbines, Delphiniums and such other medium-rapid producers should be divided every three or four years, depending upon the appearance of the clumps. Transplant them when the crowns become woody or hollow and the flowers smaller.

Generally speaking, the early flowered sorts should be divided in August and the later blooming plants in the early Spring. Because the new roots of Irises and Peonies are produced in early Fall, it seems wise to transplant these two old favorites during July or August.

Delphiniums require careful manipulation when they are divided, for each division should have a good piece of crown and some roots. Difficult subjects should have the soil washed from the roots, so that the cuts may be made in the proper places.

In dividing perennials it is not necessary that they be separated into extremely small pieces, otherwise their garden value will be

destroyed. However, small single-eye divisions may be set about a foot apart to form a good sized clump, in which case the plants usually present the same appearance as before, except that the flowers will be larger.

LAYERS

A modification of dividing perennials is to prepare them for division by covering the plants with sandy soil or clean sand. It is not necessary to bury the plants, but merely fill in between the spaces where the branches have become long, trailing and leggy. We have in mind especially the Grass Pinks, Sweet William, *Campanula carpatica* and Arabis.

CUTTINGS

Few amateur gardeners avail themselves of a method of increasing perennials by cuttings. When certain of the plants are 6 inches or 8 inches tall, the tops may be cut out and placed in a box of sand to root. Cutting back the plants in this way is not usually detrimental to them but causes branching. Care need be exercised that there are several eyes below the cut so that the parent plant can continue its growth. The easiest sorts that may be grown in this way are:

Arabis (Rock Cress)
Asclepias (Butterfly Weed)
Cerastium (Snow-on-the-Mountain)
Chrysanthemum
Clematis (Virgin's Bower)
Dahlia
Delphinium
Helenium (Helen's Flower)
Hollyhock
Iberis (Candytuft)
Lobelia
Lythrum (Loosestrife)
Perennial Sunflower
Phlox
Pinks
Potentilla (Five Finger)

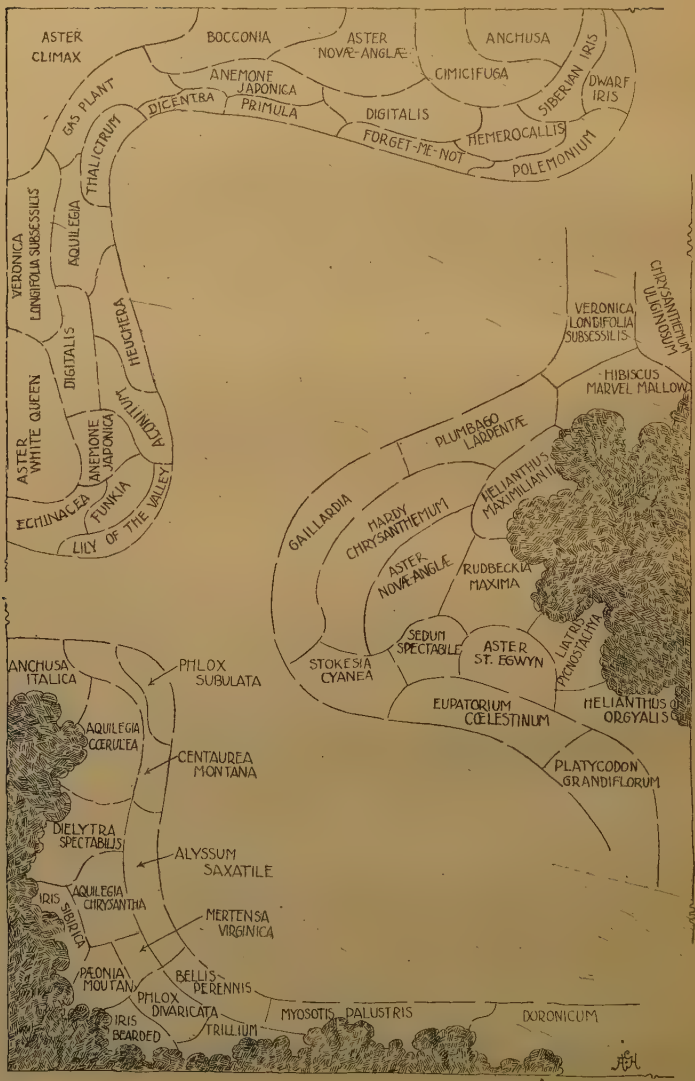
FOR SHADY PLACES

IN every garden there is some shady spot in which we try to grow flowers. Lists might be suggested which would include certain plants which prefer shade, or those which tolerate shade, or those which prefer shade but an abundance of moisture, or those which require sun in early Spring, but which may be shaded later in the year by surrounding plants which grow and overtop these Spring flowers.

It must be noted, however, that few plants will grow in dense shade; sun for a part of the day seems necessary for obtaining blooms.

Usually shade is accompanied by poor and a very dry soil, due to the presence of trees which drink up every drop of available moisture. Beech, Elm, Maple and other surface-rooting trees are the worst offenders. Oak and Hickory roots go deeper and there is usually less trouble in growing plants beneath them. Because we are laboring under these difficulties, it is wise to remove some of the surface roots and prepare the soil thoroughly.

Plaintain or Day Lilies about a pool. These flowers are especially attractive in shady places. **(See page 29.)**



Attractive groupings of perennials; *upper section*, a shady corner; *lower section*, a Spring corner; *center section*, a group of plants of hearty character blooming in the late Summer and Fall.

GARDEN FLOWERS FOR SHADY PLACES

*Dry soil.
†Average moist soil.
¶Boggy, very moist soil.
oPartial shade.
xGround cover in rough places.
xxGood, refined ground cover.
—Spring flowering native plants, but which deserve a place in the garden.

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†oALKANET (*Anchusa italica*). Deep blue.
†oANEMONE, JAPANESE (*Anemone japonica*). White, pink.
†*oASTER, HARDY (*Aster*, various). Purple, white.
†oBALLOON FLOWER, CHINESE (*Platycodon grandiflorum*). Blue, white.
¶†oBEE BALM (*Monarda*, various). Scarlet, purple.
*xxBISHOP'S WEED (*Ægopodium Podagraria*). Variegated leaves.
*o–BLACK-EYED SUSAN (*Rudbeckia*, several). Yellow, d ark center.
†oBLEEDING HEART (*Dicentra eximia* and *spectabilis*. Carmine.
*xxBUGLE (*Ajuga*, various). Purple, pink.
*oCANDYTUFT (*Iberis sempervirens*). White.
†–CARDINAL FLOWER (*Lobelia cardinalis*). Cardinal.
*–COLUMBINE (*Aquilegia*, various). Various.
*oCRANE'S-BILL (*Geranium sanguineum*). Rosy-purple.
*CORAL BELLS (*Heuchera sanguinea*). Coral, white.
†oCOWSLIP, ENGLISH (*Primula*, various). Various.
†oDAY LILY (*Funkia subcordata* and others). Purple, white.
*o–EVENING PRIMROSE, MISSOURI (*Œnothera missouriensis*). Yellow.
FERNS:
† CHRISTMAS FERN (*Aspidium acrostichoides*).
† CINNAMON FERN (*Osmunda cinnamomea*).
† CLIMBING FERN (*Lygodium palmatum*).
* INTERRUPTED FERN (*Osmunda Claytoniana*).
† LADY FERN (*Asplenium Filix-fœmina*).
† MAIDENHAIR FERN (*Adiantum pedatum*)
* POLYPODY, COMMON (*Polypodium vulgare*).
† ROYAL FERN (*Osmunda regalis*).
* SENSITIVE FERN (*Onoclea sensibilis*).
* SPLEENWORT, EBONY (*Asplenium ebeneum*).
¶–FORGET-ME-NOT (*Myosotis palustris*). Light blue.
†oFOXGLOVE (*Digitalis purpurea*). Lavender rose.
†oGAS PLANT (*Dictamnus albus*). Rosy purple, white.
*†oGAY FEATHER, KANSAS (*Liatris pycnostachya*). Rosy purple.
†GLOBE FLOWER (*Trollius europæus*). Golden yellow.
*GOLDENROD (*Solidago cæsia* and others). Yellow.
† or *–HAREBELL (*Campanula rotundifolia*). Blue.
†oKING'S SPEAR (*Asphodeline lutea*). Yellow.
†oLEMON LILY (*Hemerocallis flava*). Lemon.
†xxLILY-OF-THE-VALLEY (*Convallaria majalis*). White.
†¶oLOOSESTRIFE, PURPLE (*Lythrum Salicaria*). Purple.
†oMALTESE CROSS (*Lychnis chalcedonica*). Scarlet.
†¶oMARSH MALLOW (*Hibiscus moscheutos*). Various.
†*–MEADOW RUE (*Thalictrum*, various). Purplish white.
†MONKSHOOD (*Aconitum*, various). Violet, yellow, white.
xx†–MOSS PINK (*Phlox subulata*). Rosy lavender.
†oMULLEIN PINK (*Lychnis coronaria*). Bright rose.

†oPansy (*Viola tricolor*). Various.
†oPea, Perennial (*Lathyrus latifolius*). Rose, white.
†oPheasant's Eye (*Adonis*, various). Yellow.
†oRed-hot Poker (*Kniphofia alooides*). Bright scarlet.
†oSt. John's Wort (*Hypericum*, various). Yellow.
*xxSpeedwell (*Veronica rupestris*). Violet.
*Spiræa (*Spiræa Aruncus*). White.
†oSpiræa (*Spiræa palmata*). Crimson.
*xxSpurge, Mountain (*Pachysandra terminalis*). White.
xx†o–Stonecrop (*Sedum*, various). Yellow, pink, white.
†–Sweet William, Wild (*Phlox divaricata*). Lavender.
o–Trillium (*Trillium*, various). White, red.
o†–Violet (*Viola*, various). Purple, yellow, white.
†o–Virginia Cowslip (*Mertensia virginica*). Blue.
†oWoodruff, Sweet (*Asperula odorata*). White.

SPRING WILD FLOWERS

A characteristic of the once wooded areas of our country is the unending display of Spring flowers. Some persons have wondered why we have many more wild Spring flowers than Summer blooms. These dainty gems must hasten to produce their blossoms before the trees overhead shade them too much. Most of this class of plants do not retain their foliage through the season and are really unsightly or actually disappear from view in June or July. Every garden of any size should make room for a bed of wild flowers. Lucky is he whose property includes a bit of the natural forest and wealthy beyond estimation is he who has a small trickling stream. Flowers are

Tiarella cordifolia, the Foam Flower.

never more enjoyable than early in Spring. After the Winter we look forward to these denizens of the woods. The true lover of wild flowers does not devastate; by digging some from the forest, he preserves them.

WILD FLOWERS

Spring blooming native plants which require the sun in Spring but which will tolerate shade in Summer. Excellent for naturalizing.

†Anemone, Rue ..... *Anemonella thalictroides*
†Anemone, Wood ..... *Anemone quinquefolia*
Baneberry ..... *Actæa alba, rubra*
†Bellwort ..... *Uvularia grandiflora*
†xxoBlood Root ..... *Sanguinaria canadensis*
†Blue-Eyed Grass ..... *Sisyrinchium angustifolium*
†Bluet ..... *Houstonia cærulea*
†Clintonia ..... *Clintonia borealis*
Cohoch, Blue ..... *Caulophyllum thalictroides*
†xColt's Foot ..... *Tussilago Farfara*
*oCrane's-bill ..... *Geranium maculatum*
†¶xCreeping Jenny ..... *Lysimachia nummularia*
†Dog-Tooth Violet ..... *Erythronium americanum*
Dutchman's Breeches ..... *Dicentra Cucullaria*
Foam Flower ..... *Tiarella cordifolia*
†Ginger, Wild ..... *Asarum canadense*
x†Ground Ivy ..... *Nepeta Glechoma*
†Hepatica ..... *Hepatica triloba, acutiloba*
†Jack-in-a-Pulpit ..... *Arisæma triphyllum*
†oJacob's Ladder ..... *Polemonium reptans*
¶Lady Slipper, Pink ..... *Cypripedium acaule*
†Lady Slipper, Yellow ..... *Cypripedium pubescens*
*Lupine ..... *Lupinus perennis*
¶Marsh Marigold ..... *Caltha palustris*
May Apple ..... *Podophyllum peltatum*
Mitrewort ..... *Mitella diphylla*
xx†Myrtle, Periwinkle ..... *Vinca minor*
xPartridge Berry ..... *Mitchella repens*
*Pipsissewa ..... *Chimaphila umbellata*
*Saxifrage, Early ..... *Saxifraga virginiensis*
Shin Leaf ..... *Pyrola*, various
†oShooting Star ..... *Dodecatheon Media*
Solomon's Seal ..... *Polygonatum biflorum*
Solomon's Seal, False ..... *Smilacina racemosa*
†Squirrel's Corn ..... *Dicentra canadensis*
¶oSpiderwort ..... *Tradescantia virginica*
Spring Beauty ..... *Claytonia virginica*
*Star Grass ..... *Hypoxis hirsuta*
Toothwort ..... *Dentaria diphylla*
†Trillium ..... *Trillium*, various
¶†Turtlehead ..... *Chelone glabra*
†Twin Leaf ..... *Jeffersonia diphylla*
†Violet ..... *Viola*, various
†xxoWater Leaf ..... *Hydrophyllum*
†Windflower ..... *Anemone*, various
Wood Betony ..... *Pedicularis canadensis*

THE LISTS OF TWENTY-FIVES

TWENTY-FIVE PERENNIALS FOR DRY PLACES

Achillea Millefolium roseum (Rosy Milfoil)
Ajuga genevensis (Bugle)
Anthemis tinctoria (Yellow Marguerite)
Asclepias tuberosa (Butterfly Weed)
Aster, various (Michælmas Daisy)
Callirhoë involucrata (Poppy Mallow)
Cassia marilandica (American Senna)
Coreopsis lanceolata grandiflora (Tickseed)
Dianthus barbatus (Sweet William)
Echinops Ritro (Globe Thistle)
Euphorbia corollata (Flowering Spurge)
Gypsophila paniculata (Baby's Breath)
Helianthus, various (Perennial Sunflower)
Hemerocallis, various (Day Lily)
Iris, Bearded
Leontopodium alpinum (Edelweiss)
Lychnis coronaria (Mullein Pink)
Œnothera missouriensis (Missouri Evening Primrose)
Opuntia, various (Hardy Cactus)
Papaver nudicaule (Iceland Poppy)
Phlox, Hardy
Rudbeckia laciniata (Golden Glow)
Statice latifolia (Sea Lavender)
Veronica rupestris (Speedwell)
Yucca filamentosa (Adam's Needle)

TWENTY-FIVE PERENNIALS FOR WET PLACES

*May be grown in the water.

*Arundo Donax (Giant Reed)
Asclepias incarnata (Swamp Milkweed)
Boltonia asteroides (Starwort)
*Caltha palustris (Marsh Marigold)
Eulalia japonica (Zebra Grass)
Eupatorium perfoliatum (Boneset)
Eupatorium purpureum (Joe Pye Weed)
Ferns
  Onoclea sensibilis (Sensitive Fern)
  Osmunda regalis (Royal Fern)
  Osmunda cinnamomea (Cinnamon Fern)
Helenium autumnale (Helen's Flower)
Hibiscus moscheutos (Marsh Mallow)
*Iris pseudacorus (European Yellow Flag)
  I. sibirica (Siberian Iris)
* I. versicolor (Native Blue Flag)
Lobelia cardinalis (Cardinal Flower)
  L. syphilitica (Great Lobelia)
Lysimachia clethroides (Pepperbush Loosestrife)
Lythrum salicaria (Purple Loosestrife)
Myosotis palustris (Forget-me-not)
*Pontederia cordata (Pickerel Weed)
Ranunculus, several (Buttercup)
*Sagittaria latifolia (Arrowhead)
*Sarracenia purpurea (Pitcher Plant)
*Typha latifolia (Cat-tail)

TWENTY-FIVE PERENNIALS FOR ROCK GARDENS

ACHILLEA TOMENTOSA (Wooly Milfoil)
ALYSSUM SAXATILE (Gold Dust)
AQUILEGIA, various (Columbine)
ARABIS ALPINA (Rock Cress)
ARMERIA MARITIMA and others (Sea Thrift)
CAMPANULA CARPATICA, ROTUNDIFOLIA (Harebells)
CERASTIUM TOMENTOSUM (Snow-in-Summer)
GERANIUM, various (Crane's-bill)
GEUM COCCINEUM (Avens)
HEUCHERA SANGUINEA (Coral Bells)
IBERIS GIBRALTARICA, SEMPERVIRENS (Candytuft)
IRIS CRISTATA, PUMILA, VERNA (Baby Iris)
MYOSOTIS ALPESTRIS, SYLVATICA (Forget-me-not)
ŒNOTHERA MISSOURIENSIS (Missouri Evening Primrose)
PAPAVER NUDICAULE (Iceland Poppy)
PHLOX AMŒNA, DIVARICATA, SUBULATA (Phlox)
PLUMBAGO LARPENTÆ (Leadwort)
PRIMULA, various (Primroses, Cowslips)
SAPONARIA OCYMOIDES (Soapwort)
SEDUM, various (Stonecrop)
STATICE LATIFOLIA (Sea Lavender)
THALICTRUM, various (Meadow Rue)
TUNICA SAXIFRAGA (Tunica)
VERONICA INCANA, LONGIFOLIA, REPENS, RUPESTRIS, SPICATA (Speedwell)
VIOLA CORNUTA (Tufted Pansy)

TWENTY-FIVE BEST PERENNIALS FOR CUT FLOWERS

ACHILLEA MILLEFOLIUM ROSEUM (Rosy Milfoil)
A. PTARMICA (The Pearl)
ANEMONE JAPONICA (Japanese Anemone)
ASTER, ST. EGWYN (Michælmas Daisy)
CENTAUREA, various (Cornflowers)
CHRYSANTHEMUM, Hardy
CHRYSANTHEMUM MAXIMUM (Shasta Daisy)
COREOPSIS LANCEOLATA GRANDIFLORA (Tickseed)
DELPHINIUM, hybrids (Larkspur)
DIANTHUS BARBATUS (Sweet William)
D. PLUMARIUS (Clove Pink)
GAILLARDIA GRANDIFLORA (Blanket Flower)
GYPSOPHILA, various (Baby's Breath)
HELENIUM AUTUMNALE, Riverton Beauty (Helen's Flower)
H. AUTUMNALE, Riverton Gem (Helen's Flower)
HELIANTHUS MULTIFLORUS (Hardy Sunflower)
IRIS, various (Flag)
PÆONIA (Peony)
PHYSOSTEGIA VIRGINICA (False Dragon Head)
PYRETHRUM ROSEUM (Pink Daisy)
RUDBECKIA, various (Coneflower)
SALVIA AZUREA GRANDIFLORA (Hardy Blue Sage)
SEDUM SPECTABILE (Showy Stonecrop)
KNIPHOFIA ALOOIDES (Red-hot Poker)
VERONICA LONGIFOLIA SUBSESSILIS (Speedwell)

TWENTY-FIVE EDGING PLANTS

(Less than a foot tall.)

ÆGOPODIUM PODAGRARIA (Bishop's Weed)
AJUGA REPTANS (Bugle)
ALYSSUM SAXATILE COMPACTUM (Gold Dust)
ARABIS ALPINA (Rock Cress)

TWENTY-FIVE EDGING PLANTS—Continued

(Less than a foot tall.)

ARMERIA MARITIMA (Thrift)
BELLIS PERENNIS (English Daisy)
CAMPANULA CARPATICA (Carpathian Harebell)
CERASTIUM TOMENTOSA (Snow-in-Summer)
CRUCIANELLA STYLOSA (Crosswort)
DIANTHUS BARBATUS (Sweet William)
DIANTHUS PLUMARIUS (Clove Pink)
DICENTRA EXIMIA (Plumed Bleeding Heart)
FESTUCA GLAUCA (Blue Fescue Grass)
FILIPENDULA ULMARIA (Meadow Sweet)
HEUCHERA SANGUINEA (Coral Bells)
IBERIS SEMPERVIRENS (Candutyft)
IRIS PUMILA (Dwarf Iris)
PAPAVER NUDICAULE (Iceland Poppy)
PHLOX SUBULATA (Moss Pink)
PLUMBAGO LARPENTÆ (Leadwort)
PRIMULA VERIS (Primrose)
SEDUM, various (Stone Crop)
TUNICA SAXIFRAGA (Tunica)
VERONICA INCANA (Hoary Speedwell)
VERONICA RUPESTRIS (Rock Speedwell)

TWENTY-FIVE TALLEST PLANTS

(All are above five feet tall)

Excellent for bold foliage and flower effects.

ALTHÆA ROSEA (Hollyhock)
ARUNDO DONAX (Giant Reed)
ASTER NOVÆ-ANGLIÆ (New England Aster)
ASTER TATARICUS (Tartarian Aster)
BOCCONIA CORDATA (Plumed Poppy)
BOLTONIA ASTEROIDES (Starwort)
CAMPANULA PYRAMIDALIS (Chimney Bellflower)
CASSIA MARILANDICA (American Senna)
CEPHALARIA MONTANA (Roundheads)
CIMICIFUGA RACEMOSA (Bugbane)
DELPHINIUM (Larkspur)
EREMURUS ROBUSTUS (King's Spear)
ERIANTHUS RAVENNÆ (Plume Grass)
EULALIA JAPONICA (Zebra Grass)
EUPATORIUM PURPUREUM (Joe Pye Weed)
HELENIUM AUTUMNALE (Helen's Flower)
HELIANTHUS MAXIMILIANII (Maximilian's Sunflower)
H. ORGYALIS (Narrow-leaved Sunflower)
HIBISCUS MOSCHEUTOS (Mallow Marvels)
POLYGONUM SIEBOLDII (Giant Knotweed)
RUDBECKIA LACINIATA (Golden Glow)
R. MAXIMA (Coneflower)
SOLIDAGO ALTISSIMA, various (Goldenrod)
VALERIANA OFFICINALIS (Garden Heliotrope)
YUCCA FILAMENTOSA (Adam's Needle)

MORE THAN TWENTY-FIVE BLUE PERENNIALS

ANCHUSA ITALICA, Dropmore variety (Italian Borage). Deep blue
AQUILEGIA CŒRULEA (Columbine). Deep blue
ASTER ALPINUS, TATARICUS and others. Light blue
BAPTISIA TINCTORIA (False Indigo). Deep blue
CAMPANULA CARPATICA, PERSICIFOLIA, MEDIUM and others
CENTAUREA MONTANA. Deep blue
CLEMATIS DAVIDIANA. Deep blue

MORE THAN TWENTY-FIVE BLUE PERENNIALS—Continued

DELPHINIUM GRANDIFLORUM, Gold Medal Hybrids, Bellamoum. Deep and light blue

ECHINOPS RITRO (Globe Thistle). Deep blue

EUPATORIUM CŒLESTINUM (Mist Flower). Medium blue

ERYNGIUM AMETHYSTINUM (Sea Holly). Deep blue.

FUNKIA CŒRULEA (Plantain Lily). Deep blue.

IRIS PALLIDA DALMATICA, PUMILA and others. Deep and light blue

LINUM PERENNE (Flax). Deep blue

LOBELIA SYPHILITICA (Blue Lobelia). Deep blue

LUPINUS POLYPHYLLUS (Lupine). Deep blue.

MERTENSIA VIRGINICA (Virginian Cowslip). Clear blue

MYOSOTIS (Forget-me-not). Light blue

NEPETA GLECHOMA (Ground Ivy). Light blue

PLUMBAGO LARPENTÆ. Deepest blue

POLEMONIUM CŒRULEUM, HUMILE and REPTANS (Jacob's Ladder). Light blue

PULMONARIA ANGUSTIFOLIA AZUREA. Clear blue

SCABIOSA CAUCASICA (Pincushion Flower). Light blue

TRADESCANTIA VIRGINICA (Spiderwort). Deep blue

VERONICA RUPESTRIS, SPICATA and others (Speedwell). Deep blue

TWENTY-FIVE MOST USED WHITE PERENNIALS FOR GARDEN EFFECT

ACHILLEA PTARMICA, The Pearl 2 ft., July–Sept.

ANEMONE JAPONICA, Whirlwind (Japanese Anemone), 2-3 ft., Fall

AQUILEGIA VULGARIS NIVEA (Columbine). 2 ft., May

ARABIS ALPINA (Rock Cress), 1 ft., April

ASTER PTARMICOIDES (Michælmas Daisy), 1½ ft., Aug.

CERASTIUM TOMENTOSUM (Snow-in-Summer), 9 in., May

CAMPANULA CARPATICA ALBA (Carpathian Harebell), 9 in., June–Oct.

C. PERSICIFOLIA ALBA (Peachbells), 2 ft., June–July

CHRYSANTHEMUM (Shasta Daisy), 1½ ft., May–July

C. ULIGINOSUM (Giant Daisy), 4 ft., Sept.–Oct.

CLEMATIS RECTA (Virgin's Bower), 3 ft., June–July

DELPHINIUM GRANDIFLORUM ALBA (Chinese Larkspur), 2 ft., July-Sept.

FILIPENDULA ULMARIA (Meadow Sweet), 1½ ft., June–July

FUNKIA GRANDIFLORA (Plantain Lily), 1½ ft., July

GYPSOPHILA PANICULATA and ACUTIFOLIA (Baby's Breath), 2-3 ft., June–July

HIBISCUS OCULIROSEUS (Marvel Mallow, Crimson Eye), 4 ft., July–Sept.

HOLLYHOCK, 6-8 ft., June

IBERIS SEMPERVIRENS (Hardy Candytuft), 1 ft., April

IRIS SIBIRICA, Snow Queen (Siberian Iris), 3 ft., June

LYSIMACHIA CLETHROIDES (Loosestrife), 2 ft., July–Sept.

PHLOX SUFFRUTICOSA, Miss Lingard (Hardy Phlox), 3 ft., June

PHYSOSTEGIA VIRGINICA ALBA (False Dragon Head), 3 ft., June–July

VALERIANA OFFICINALIS (Valerian), 4 ft., June–July

VERONICA VIRGINICA (Speedwell), 3-4 ft., July–Aug.

YUCCA FILAMENTOSA (Adam's Needle), 4 ft., July

TWENTY-FIVE DAISY-LIKE FLOWERS OF VARIOUS COLORS

ANTHEMIS TINCTORIA (Yellow Marguerite). Lemon, yellow

ASTER LÆVIS (Smooth-leaved Aster) Lilac lavender

A. NOVÆ-ANGLIÆ (New England Aster). Purple

A. NOVI-BELGII, St. Egwyn. Pink

A. PTARMICOIDES. White.

BELLIS PERENNIS (English Daisy). Crimson to white

BOLTONIA ASTEROIDES (False Starwort). White

B. LATISQUAMA (False Starwort). Pinkish lavender

CHRYSANTHEMUM MAXIMUM (Shasta Daisy). White

C. ULIGINOSUM (Giant Daisy). White

COREOPSIS LANCEOLATA GRANDIFLORA (Tickseed). Golden

DORONICUM, various (Leopard's-bane). Golden

ECHINACEA PURPUREA (Purple Coneflower). Rosy purple

ERIGERON, various (Fleabane). Rosy purple to white

GAILLARDIA ARISTATA (Blanket Flower). Yellow and crimson

HELENIUM AUTUMNALE, Riverton Gem and others. Maroon to gold

H. HOOPESII (Helen's Flower). Yellow

HELIANTHUS MAXIMILIANII (Maximilian's Sunflower). Gold

H. ORGYALIS (Fine-leaved Sunflower). Gold

HELIOPSIS SCABRA, Excelsior (Golden Sunflower). Gold

INULA ENSIFOLIA (Elecampane). Yellow

LEPACHYS PINNATA (Gray-headed Coneflower). Yellow

PYRETHRUM ROSEUM (Pink Daisy). Crimson to white

RUDBECKIA MAXIMA (Coneflower). Gold

R. NEWMANII (Coneflower). Gold, purple cone

TWENTY-FIVE PERENNIALS FOR APRIL BLOOM

ADONIS AMURENSIS (Amoor Pheasant's Eye)

A. VERNALIS (Spring Pheasant's Eye)

ALYSSUM SAXATILE (Gold Dust)

ARABIS ALPINA (Rock Cress)

AUBRIETIA DELTOIDEA (Purple Rock Cress)

BELLIS PERENNIS (English Daisy)

CALTHA PALUSTRIS (Marsh Marigold)

CLAYTONIA VIRGINICA (Spring Beauty)

DAPHNE CNEORUM (Garland Flower)

DICENTRA CANADENSIS (Squirrel Corn)

D. CUCULLARIA (Dutchman's Breeches)

DORONICUM, various (Leopard's Bane)

ERYTHRONIUM AMERICANUM (Yellow Adder's Tongue)

HEPATICA TRILOBA (Hepatica)

IBERIS SEMPERVIRENS (Hardy Candytuft)

IRIS PUMILA (Baby Iris)

MERTENSIA VIRGINICA (Virginia Cowslip)

PAPAVER NUDICAULE (Iceland Poppy)

PHLOX DIVARICATA (Wild Sweet William)

P. SUBULATA (Moss Pink)

PRIMULA, various (Cowslip, Primrose)

SANGUINARIA CANADENSIS (Bloodroot)

SAXIFRAGA CORDIFOLIA (Saxifrage)

THALICTRUM DIOICUM (Meadow Rue)

TRILLIUM, various (Wake Robin)

TWENTY-FIVE PERENNIALS FOR MAY BLOOM

Ajuga reptans (Bugle)
Alyssum saxatile (Gold Dust)
Aquilegia, various (Columbine)
Bellis perennis (English Daisy)
Convallaria majalis (Lily-of-the-Valley)
Dianthus barbatus (Sweet William)
D. plumarius (Clove Pink)
Dicentra (Dielytra) spectabilis (Bleeding Heart)
Epimedium, various (Bishop's Hat)
Helenium Hoopesii (Early Helen's Flower)
Iberis sempervirens (Hardy Candytuft)
Iris florentina (Florentine Iris)
I. intermediate vars.
I. pumila (Baby Iris)
I. verna
Mertensia virginica (Virginia Cowslip)
Myosotis, various (Forget-me-not)
Œnothera fruticosa (Evening Primrose)
Pæonia Moutan (Shrubby Peony)
Polemonium cœruleum (Jacob's Ladder)
Primula, various (Cowslip)
Pyrethrum roseum (Pink Daisy)
Sedum acre (Wall Pepper)
Trollius europæus (Globe Flower)
Viola tricolor (Pansy)

TWENTY-FIVE PERENNIALS FOR JUNE BLOOM

Achillea Millefolium roseum (Rosy Milfoil)
A. Ptarmica (The Pearl)
A. tomentosa (Wooly Yarrow)
Campanula Medium (Canterbury Bells)
C. persicifolia (Peach Bells)
Chrysanthemum maximum (Shasta Daisy)
Coreopsis lanceolata grandiflora (Tickseed)
Delphinium, various (Hardy Larkspur)
Dianthus barbatus (Sweet William)
D. plumarius (Clove Pink)
Dictamnus albus (Gas Plant)
Digitalis, various (Foxglove)
Echinops Ritro (Globe Thistle)
Geum coccineum (Avens)
Hemerocallis, various (Day Lily)
Heuchera sanguinea (Coral Bells)
Hollyhock
Iris, bearded (German Iris)
I. sibirica (Siberian Iris)
Lychnis, various (Campion)
Pentstemon, various (Bearded Tongue)
Papaver nudicaule (Iceland Poppy)
P. orientale (Oriental Poppy)
Peony
Pyrethrum roseum (Pink Daisy)

TWENTY-FIVE PERENNIALS FOR JULY BLOOM

Achillea filipendulina (Golden Yarrow)
A. Millefolium roseum (Rosy Milfoil)
A. Ptarmica (The Pearl)
Aconitum napellus (Monkshood)
Anchusa italica, Dropmore variety (Italian Borage)
Anthemis tinctoria (Yellow Marguerite)
Aruncus sylvester (Spiræa)
Chrysanthemum maximum (Shasta Daisy)
Cassia marilandica (American Senna)
Delphinium, various (Hardy Larkspur)

TWENTY-FIVE PERENNIALS FOR JULY BLOOM—Continued

DIGITALIS PURPUREA (Foxglove)
FILIPENDULA ULMARIA (Meadow Sweet)
GAILLARDIA ARISTATA (Blanket Flower)
GEUM COCCINUEM (Avens)
HEMEROCALLIS THUNBERGII (Day Lily)
HEUCHERA SANGUINEA (Coral Bells)
HOLLYHOCK
IRIS LÆVIGATA (Japanese Iris)
LYCHNIS, various (Campion)
PENTSTEMON, various (Bearded Tongue)
PHLOX SUFFRUTICOSA (Miss Lingard)
PLATYCODON, various (Balloon Flower)
SCABIOSA CAUCASICA (Pincushion Flower)
STOKESIA CYANEA (Stokes' Aster)
TRADESCANTIA VIRGINICA (Spiderwort)

TWENTY-FIVE PERENNIALS FOR AUGUST BLOOM

ACHILLEA, various (see July) (Milfoil)
ANTHEMIS TINCTORIA (Yellow Marguerite)
ARTEMISIA, various (Wormwood and others)
BOLTONIA ASTEROIDES (False Starwort)
CARYOPTERIS MASTACANTHUS (Blue Spiræa)
COREOPSIS LANCEOLATA GRANDIFLORA (Tickseed)
DELHIPNIUM, various (Hardy Larkspur)
ERYNGIUM AMETHYSTINUM (Sea Holly)
FUNKIA, various (Plantain Lily)
GAILLARDIA ARISTATA (Blanket Flower)
GYPSOPHILA PANICULATA (Baby's Breath)
HELIOPSIS PITCHERIANA (Golden Sunflower)
HEUCHERA SANGUINEA (Coral Bells)
HIBISCUS MOSCHEUTOS (Mallow Marvels)
LIATRIS PYCNOSTACHYA (Kansas Gay Feather)
LINUM PERENNE (Blue Flax)
LOBELIA, various
MONARDA DIDYMA Cambridge Scarlet, (Bee Balm)
PHLOX, Hardy
PHYSOSTEGIA VIRGINICA (False Dragonhead)
PLATYCODON, various (Balloon Flower)
SCABIOSA CAUCASICA (Pincushion Flower)
TRITOMA UVULARIA (Red-hot Poker)
TUNICA SAXIFRAGA (Tunica)
VERONICA LONGIFOLIA SUBSESSILIS (Speedwell)

TWENTY-FIVE PERENNIALS FOR SEPTEMBER BLOOM

ACONITUM AUTUMNALE (Monkshood)
ANEMONE JAPONICA (Japanese Anemone)
ARTEMISIA LACTIFLORA (Mugwort)
ASTER, various (Michælmas Daisy)
BOLTONIA ASTEROIDES (False Starwort)
CHRYSANTHEMUM MAXIMUM (Shasta Daisy varieties)
CHELONE GLABRA (Turtle head)
CIMICIFUGA DAHURICA (Virginia Snakeroot)
EUPATORIUM, various (Boneset and others)
GAILLARDIA ARISTATA (Blanket Flower)
HELIANTHUS MAXIMILIANII (Maximilian's Sunflower)

TWENTY-FIVE PERENNIALS FOR SEPTEMBER BLOOM
Continued

HELIANTHUS ORGYALIS (Narrow-leaved Sunflower)
HELENIUM, various (Helen's Flower)
HELIOPSIS PITCHERIANA (Golden Sunflower)
HIBISCUS MOSCHEUTOS (Mallow Marvels)
LATHYRUS LATIFOLIUS (Perennial Pea)
LIATRIS PYCNOSTACHYA (Kansas Gay Feather)
LOBELIA CARDINALIS (Cardinal Flower)
L. SYPHILITICA (Great Lobelia)
PHYSOSTEGIA VIRGINICA (False Dragonhead)
POLYGONUM, various (Knotweed)
RUDBECKIA, various (Coneflower, Black-eyed Susan)
SEDUM SPECTABILE (Showy Stonecrop)
STOKESIA CYANEA (Stokes' Aster)
VERONICA LONGIFOLIA SUBSESSILIS (Speedwell)

TWENTY-FIVE PERENNIALS BLOOMING AFTER FROST

ACONITUM FISCHERI (Monkshood)
ANEMONE JAPONICA (Japanese Anemone)
ASTER, various (Michælmas Daisy)
BOLTONIA ASTEROIDES (False Starwort)
CALLIRHOË INVOLUCRATA (Poppy Mallow)
CHRYSANTHEMUM, Hardy sorts
DAPHNE CNEORUM (Garland Flower)
DELPHINIUM GRANDIFLORUM (Larkspur)
DIANTHUS LATIFOLIUS ATROCOCCINEUS (Everblooming Sweet William)
ECHINACEA PURPUREA (Purple Coneflower)
EUPATORIUM CŒLESTINUM (Hardy Ageratum)
GAILLARDIA ARISTATA (Blanket Flower)
HELIANTHUS MAXIMILIANII (Maximilian's Sunflower)
H. ORGYALIS (Fine-leaved Sunflower)
LATHYRUS LATIFOLIUS (Perennial Pea)
PHLOX, Hardy sorts
PLUMBAGO LARPENTÆ (Lead Plant)
POLYGONUM AMPLEXICAULE (Knotweed)
SALVIA AZUREA GRANDIFLORA (Blue Sage)
S. FARINACEA
S. ULIGINOSA
SOLIDAGO, various (Goldenrod)
STOKESIA CYANEA (Stokes' Aster)
TRITOMA UVULARIA (Red-hot Poker)
VIOLA CORNUTA (Tufted Pansy)

NOTEWORTHY PERENNIALS

Achillea—Milfoil, Yarrow

The Achilleas have proven themselves some of the most desirable plants for the garden, mainly because of their exceedingly free, yet graceful habits of growth. They range in color from white to cerise, pink and yellow, and are often combined with silvery white foliage.

The species *Achillea Ptarmica flore-pleno*, The Pearl, has double flowers borne in dense heads of purest white. It somewhat resembles the pompon Chrysanthemums. Boule de Neige is not quite as large as The Pearl, but the centers of the flowers are fuller and this makes it appear of purer color. Perry's White has much larger and more compact blooms than The Pearl, some of the flowers measuring 1 inch across.

A. Millefolium is the common Yarrow, but its variety *A. roseum* has handsome pink flowers and feathery foliage.

The Wooly Milfoil (*A. tomentosa*) and the Golden or Fern-leaved Yarrow (*A. Filipendulina* or *Eupatorium*) are yellow flowered sorts; the former grows but a foot tall, the latter attains a height of 4 to 5 feet.

USES. All of the Achilleas are good to use as cut flowers and for the border. The Pearl is especially good in cemeteries because it takes care of itself in the grass. They are often used in landscape work against a background of shrubbery and some of the dwarfer types are used in rockeries.

CULTURE. They are very easy to grow; in fact they grow so rapidly that the plants should be divided and reset each Spring. Any soil will do although they thrive best in rich, well watered soil where plenty of sunshine is available. Some of the taller Yarrows need a little support. This is best given by sticking a few twiggy branches into the soil, in which case the stems of the Yarrow are held up nicely.

PROPAGATION. If the seeds are sown early, the plants will bloom the first year. The large flowering clumps should be divided either in the Spring or Fall.

Aconitum—Monkshood, Wolfsbane, Helmet Flower

Under trees, in woodlands and even in semi-wild gardens, the Aconitums, when once established, enhance the stateliness and grandeur of a place as only a plant with tall spikes of cool blue flowers can. The flowers themselves are showy, shaped like a helmet or hood, from which the common name Monkshood is derived. The leaves are large and lustrous green, forming a dense mat, which throws long, compact stalks of white, blue, violet-blue, white and lilac and yellow flowers. They grow from 3 feet to 6 feet tall and bloom from June or July until November.

Species. The common Monkshood (*Aconitum Napellus*) has large, dark blue flowers and grows 5 feet to 6 feet high. A variety of this one has white flowers with flesh-colored edges and another has decided pink markings on it. *A. N. bicolor* has white and blue flowers. Wolfsbane (*A. Lycoctonum*) blooms in June and July, is 4 feet high and has soft yellow flowers. *A. Wilsonii* blooms in September with spikes of pale blue flowers growing 6 feet tall. *A. Fischeri* is the last one to bloom. It is only 3 feet tall, has pale blue flowers and blooms in October.

Uses. The Monkshoods are planted among shrubbery and in borders, especially in combination with Madonna Lilies, white Phlox and Shasta Daisies. Most of the varieties are valuable to fill in vacant spaces in the garden when the earlier blooming plants have past. They are excellent for naturalizing in a woods. Since the roots are poisonous, one should be careful to avoid planting them near a vegetable garden where they might be mistaken for another plant, or where children could get to them. The effect of the glossy leaves is very striking, especially of *A. Fischeri.* If undisturbed in the woods, they will naturalize themselves very easily. Aconitums should always be planted in masses.

Culture. Aconitums grow in almost any good garden soil, either in sun or partial shade. When the ground is being prepared for planting, one should dig deeply and use plenty of well-decayed cow manure. Good culture and liberal feeding add greatly.

Propagation. It is a rather slow process to raise them from seed since it takes twenty days for the seed to germinate. However, they are easily propagated by division of the roots. They grow best when left undisturbed for years.

Adlumia—Mountain Fringe, Allegheny Vine, Climbing Fumitory

This dainty biennial vine, native as it is in our own country, is little known. The leaves are fine and resemble the foliage of a Maidenhair fern. These plants are related to the Bleeding Heart and Dutchman's Breeches and the flowers, which are white or purplish, are tubular and unmistakably resemble the Bleeding Heart, although they are tiny. *Adlumia fungosa* (*cirrhosa*) is the only species cultivated.

The Allegheny Vine or Adlumia, a vine of extreme grace.

Uses. Where gracefulness is wanted in a vine, the Adlumia supplies the need. It is effectively planted at the base of an evergreen tree upon which it can climb. The growth is so slender and the foliage so light that there is no danger that the shade which it casts will harm the tree in any way. It merely casts a veil of loveliness over a portion of the evergreen. It may be used for trellises and arbors of all sorts because it attains a height of 15 feet.

Culture and Propagation. The seed is sown in early Spring. Generally the plants remain low and bushy for the first year. The second year they grow rapidly, produce an abundance of seed and then die. Fortunately the seeds self-sow and when one has started the Adlumias, they generally persist year after year from volunteer plants.

The plants do not tolerate open, windswept places and enjoy a rich, rather moist soil, and are best when not exposed to the full sun all day.

The seeds are best sown where they are to grow, as the plants transplant with difficulty.

Adonis—Birdseye, Pheasant's Eye

It is difficult to find a bright flowered plant which blooms as early as does the Adonis. The flowers are a bright and deep yellow, resembling large Buttercups with finely cut, rather ornamental foliage. *Adonis amurensis* is the first sort to bloom followed by *A. vernalis* (see illustration) and *A. pyrenaica*. The first sort blooms in April, and the last in May or June. All the sorts grow about 1 foot tall. Some of the annual sorts are Autumn blooming.

Adonis, not a gypsy, for it does not like to be moved.

USES. Adonis is especially good to use in rock gardens or in the border.

CULTURE. Any good light soil will do and they will grow either in sun or shade, but partial shade is preferred.

PROPAGATION. The best way is by division of the roots. This should be done in August. It is a rather slow method by seed as it takes from three to four years, after transplanting, for this flower to show its true beauty. One may readily see that this plant does not enjoy being moved.

Ægopodium—Bishop's Weed, Goat Weed

Wherever one goes, through many gardens and even in some woods this green and yellow variegated plant has spread its roots until it has almost come to be considered a troublesome weed by many people, although in its place it is of great value. The white flower is rather inconspicuous and does not show up well against the light colored leaves. Ægopodium Podagraria is a small creeping plant with white margined leaves.

Uses. The Bishop's Weed makes a beautiful border for a bed of shrubs or flowers, if it is not allowed to spread too freely. It grows to best advantage when used to cover waste ground or shady places where grass will not grow. It is well used in the narrow strips of soil between the foundation wall and a sidewalk.

Culture. It thrives in any kind of soil.

Propagation. By seeds, and division.

Ajuga—Bugle Flower

For creeping over the soil in shaded places the Bugle Flower is excellent. Two sorts are commonly catalogued. *Ajuga reptans rubra* has deep purplish-blue flowers and purplish leaves and is prostrate in habit; *A. genevensis* is more upright in growth and bears flowers varying in color from dull red to white and blue. There is a variegated form of the Bugle Flower in which the leaves are mottled with yellow. They flower in May.

Use. It is an excellent carpet plant and is often used in cemeteries. When clipped into form it serves as an excellent edging plant. Rockeries are often planted with the Ajuga. The plants will grow beneath trees where a lawn is difficult to establish.

Culture and Propagation. The plants, being of a spreading habit, are easily divided either in Spring or Fall. Seeds grow readily.

Alyssum—Madwort, Basket of Gold, Gold Dust, Goldentuft, Rockmadwort

The various Alyssums have been known for a long time as one of the best, if not the best, edging plant for borders of all kinds. They have been combined with Darwin Tulips, with Rock Cress (Arabis) and the False Wall Cress (Aubrietia), and also with shrubs, such as the

Spiræas and Hydrangeas. Just as soon as Winter is over, the Alyssum makes preparations to grow, and within a month it presents a mass of yellow flowers. It is in bloom from early Spring through June and grows from 4 inches to 12 inches high. The Basket of Gold (*Alyssum saxatile compactum*) is of a dwarf, shrubby nature with grayish-green leaves and dense heads of brilliant golden yellow flowers, and is one of the best yellow, low growing plants of early Spring. *A. s. variegatum* has variegated foliage with yellow blotches on the leaves. When this plant has finished blooming, it becomes a showy, ornamental one. The Madwort (*A. rostratum*) has golden-yellow flowers, grows about 12 inches high and blooms somewhat later than the others. There is also a double form with yellow flowers.

Uses. The Alyssums are indispensable plants for the rock garden, especially where plants are needed to droop over the rocks. They are planted along sidewalks in hanging baskets, and as groups or edges for the border. The annuals, being sweet scented, they are also used for cutting purposes, and are good for Winter blooming.

Culture. They are very easy to grow, requiring some limestone, a well-drained soil and a sunny situation. They spread rapidly and bloom very freely.

Propagation. Seeds should be sown in August and wintered over in a light, airy position until large enough to be planted out, if good-sized plants are desired in the Spring. The double sorts cannot be grown from seeds and must be propagated through cuttings. The roots of the plant can also be divided.

Anchusa—Alkanet, Italian Borage, Summer Forget-me-not, Sea Bugloss

One of the colors which all amateur gardeners wish is a good, strong blue, one which does not fade easily but which holds its own. Anchusas when planted in large masses, appear as a misty sea of deep blue when in bloom. Although possessing nothing to recommend it as a cut flower, it is a tall growing blue perennial that is deserving of a place in every garden. The plants of *Anchusa italica*, Dropmore Variety, which is the commonest one grown, attains a height of 3 feet to 5 feet, and blooms during June and July. The leaves are very large, heavy and hairy. The flowering branches are sent out in all directions from the plant and bear large, loose clusters of giant Forget-me-nots of soft turquoise blue. Many have a white eye. The Opal variety is light pinkish blue. The blooming season can be easily

Left, **The Monkshood or Aconitum, striking plants resembling Larkspurs;** *right*, **Anchusa, a rare deep blue of May.**

lengthened by cutting down the taller sprays when the flowers begin to fade. This will cause smaller spikes to appear which will continue blooming through September. They are of such beauty and are so attractive in early Spring when so few blue flowers are in sight, that they have proven very popular. The bees also delight in visiting them.

USES. Anchusas have proven an invaluable plant for the border, and are used in woodlands to a certain extent. *A. myosotidiflora* is a dwarf variety bearing small flowers and is used effectively in rock gardens, especially in shady nooks, where it blooms all Summer.

CULTURE. Any good garden soil, plenty of sunshine, and a well-drained situation suit them. Most of the plants become fully established during the second or third year. They are moisture-loving plants and should be given copious soakings of water during dry spells. The plants should be staked during the flowering season.

PROPAGATION. Seeds and division of the plant. Anchusas self-sow very readily. The roots are very juicy and brittle so that when the plants are dug, they are frequently broken. Each root allowed to remain in the soil will produce a new plant.

Anemone—Japanese Wind Flower

There are many kinds of Anemones found growing in the cultivated gardens, as well as in the wild of our woods. Some are among the first flowers to bloom along the river banks in the Spring and some bloom even after the early frosts of Autumn have come. All thrive under cool conditions and in many cases the ground should be covered with leafmold to keep it cool. The early blooming varieties such as the Pasque Flower (*Anemone pulsatilla*) grow about 9 inches high and the purplish flowers are borne in profusion during April. The Pasque Flower is followed by seed pods covered with silky hairs which stay on the plant for a considerable time. But of all the Anemones, the Japanese Wind Flower (*A japonica*) is the largest and the best one to grow for our gardens. They begin blooming early in Fall and last until freezing weather cuts them down when only the Cosmos, Dahlias and Chrysanthemums are left. The flowers are pure white, light and dark pink; they grow from 2 feet to 3 feet tall. They seem to thrive best when planted in front of shrubbery, evergreens or walls facing the south where they are protected from the northern winds. Japanese Anemones have a leathery foliage which is dark green on the surface and light green on the under side. The flower spikes grow straight and erect from the center of the plant and bear many large, saucer-shaped flowers with a large center of yellow pollen masses. The good varieties are: Whirlwind, white; Queen Charlotte, pink; Geante des Blanches, white, and Kriemhilde, rose. There are also rosy-reds and crimsons.

Uses. Anemones are charming when used as cut flowers especially when combined with the fine ferns or *Asparagus plumosus*. The dwarf varieties which bloom in the Spring are used in rock gardens, while the others are used in borders. The Japanese Anemones bloom at a time when flowers are scarce and with slight protection from the early frosts, they will bloom two or three weeks after many other plants are killed.

Culture. All Anemones like a rich, moist soil, one which is well drained in Winter. The early dwarf varieties will thrive in shady places, but the Japanese Wind Flowers need sunshine. They like lots of water and should be thoroughly soaked with water during a dry season. They need some Winter protection, such as a good covering of leaves. If the plants are moved, it should be in the Spring, but it is best to let them grow undisturbed in the border for a number of years. The ground should be worked deeply and well manured.

PROPAGATION. The seed should be sown in the Spring and the plants spaced at 18 inches apart. The best method is to divide the roots. Save even the smallest roots when the plant is dug, because if they are cut into 2-inch lengths and placed in a sandy soil they will produce little plants. When well started these new plants may be placed in their permanent quarters.

Anthemis—Golden Marguerite, Common Chamomile

This hardy Marguerite is a sturdy, very easily grown plant. It is about 1 foot or 1½ feet high, very bushy, with finely cut foliage somewhat resembling the Pyrethrums, and bears Daisy-like, yellow flowers in great profusion from June until Fall. The colors range from purest white to a rich yellow. *Anthemis tinctoria Kelwayi* is the best one for gardens because it has a particularly long flowering season. Its flowers are yellow. *A. montana*, a form of *A. tinctoria*, has creamy white flowers.

Left, **Japanese Anemone, one of the charming late flowers;** *right*, **wild Asters, a Fall garden without them being incomplete.**

USES. The golden Marguerites are splendid when planted in masses and are most excellent for hot dry places. Some of the dwarf forms are used in rockwork. They are used for cut flowers to a great extent.

CULTURE. These flowers will grow in almost any kind of soil; in fact, they will succeed in the poorest clay soil. They like a sunny location, although they will bloom in partial shade. The plants should be divided often as they grow and spread very rapidly. It must be frankly admitted that they are apt to overrun a small garden.

PROPAGATION. They are easily grown from seed or by division of the roots.

Aquilegia—Columbine

Doth the rock burst into bloom
So the bees seek its perfume?
Is there somewhere in its breast
A spirit roving without rest
That doth fabricate
This wall of slate
Into forms so complicate
That but a breath
Would bring death
They are so frail,
So thinly frail?

Ah, the wonder that has run
That some sweet alchemy has won—
Kissed together stone and sun!
O Columbine, the world is thine!

—L. H. BAILEY.

The names of this flower are interesting to the garden lover with imagination. It is called Columbine, some say, because the flowers appear like the cap of a court jester; others have suggested that the spurs of the flowers cause them to appear like a ring of doves (*Colombo*) about a dish. And its name Aquilegia, is it from *agui legus*, to draw water, or from *aquila*, an eagle? Both derivations would be apt, for the Aquilegia appears to draw water from the rocks upon which it grows in the wild and the shape of the flower suggests the talons of an eagle.

SPECIES. Canada Columbine (*Aquilegia canadensis*). This is the common species native to the Eastern states. The flowers are red and yellow, and the spurs are medium short.

Rocky Mountain Columbine (*A. cærulea*) is a most beautiful sort which in its wild form has white petals and usually white sepals and

Left, **Columbines—the long-spurred sorts being the prettiest; *right*, Armeria or Sea Pink; a good edging plant.**

long blue spurs. It is a native of the Western States and is found at elevations of from 7,000 to 10,000 feet. As a parent it has produced many excellent white, pink and blue varieties. The variety Rose Queen is one of the most charming sorts.

A. chrysantha is a yellow sort with long spurs which blooms somewhat later than the other sorts. It has been much used as a parent for long-spurred hybrids.

Common European Columbine (*A. vulgaris*). This is a European species with bright lilac flowers, although its white form *nivea* is most commonly grown. It is a dwarf sort, 1½ feet tall and with stout, curved spurs. This variety has the best foliage of any Columbine,

Uses. Most species are excellent for the rock garden, as well as for the herbaceous border, where they make clumps sometimes 2 feet in diameter. It is difficult to arrange Columbines as cut flowers, they seem to strangle each other. When a truly exquisite effect is desired, cut a single truss of bloom and place it in a vase by itself.

Culture and Propagation. Aquilegias bloom in from 12 to 15 months from seed; in other words, they rarely or never bloom the first year when the seed is sown in the open border. When sown in August of one year they will bloom nicely the next year. The seedlings prefer a warm, sandy soil.

The seed sometimes germinates irregularly but it is usually advisable to sow the seed shortly after it is ripe. The plants make little growth during the hot Summer from Spring-sown seed. Large plants may be divided in September.

It might be advisable for the amateur gardener to buy plants of the various sorts which, if planted together, will cross to form many hybrids.

Most Columbines do well in the sun but will stand some shade.

Arabis—Rock Cress, Wall Cress

The Rock Cress is a small, white, four-petaled flower and its masses of snowy bloom early in the Spring contrast beautifully with the Basket of Gold (*Alyssum saxatile compactum*) and the blue False Wall Cress (*Aubrietia*). It blooms very soon after the snow disappears and the flowers are so numerous that when a plant is in bloom, no foliage is visible. The foliage is gray and the plant attains a height of 6 inches. It is of a spreading nature and the stems form a dense mat about a foot across which blooms continuously from very early Spring through May. *Arabis alpina* is the commonest form grown but *A. albida* is a better bloomer. Both have white flowers. There is a soft pink sort (*A. aubrietioides*) which sometimes winterkills.

Arabis or Rock Cress. Masses of white flowers in a rockery or border are attractive.

USES. It is a splendid rock garden plant, growing where it will droop over the rocks. In borders it should be used to cover bare spots. The flowers are sweet scented and are valuable for cutting purposes. It is a neat plant wherever grown.

CULTURE. Any good garden soil will do, provided it is loose and open. Arabis is a drought-resistant plant, does not need much water, but requires lots of sun and heat. After blooming the plants should be cut back thus causing them to branch freely and form better plants for the next year's bloom. *A. aubrietioides* is best wintered in a coldframe.

PROPAGATION. Rock Cress is propagated by seeds or by dividing the plants.

Armeria—Sea Pink, Thrift, Cliff Rose

The Sea Pink is a low growing plant which derived its name from the fact that it grows along the seashore and is pink in color. There are other colors, such as red, deep rosy pink, lilac and white. It grows in dense, low clumps with numerous, narrow, grass-like leaves, all clustered at the base, from which spring the flowers on stiff, wiry stems from 6 inches to 12 inches high. The Sea Pink (*Armeria maritima*) is the common form. *A. Laucheana* has crimson flowers while *A. cephalotes alba* has snowy white flowers. They flower more or less continuously from early Spring until late in Fall.

USES. The Sea Pinks are invaluable when planted in clumps or for edging. They are also used for pot plants and in the rock garden.

CULTURE. They need a free, well-drained, sandy loam and leaf soil.

PROPAGATION. The more choice varieties are increased by dividing the roots and a good sized plant will furnish hundreds of small divisions. They produce seed and will grow readily from seeds. If the seeds are planted in the Fall, they should be kept in the coldframe and removed to the open ground just as soon as it is in a workable condition. This will enable the plants to get well established before the hot weather arrives.

Artemisia—Wormwood, Mountain Fringe, Old Man, Old Woman, Southern Wood

This group of plants, as a whole, are not generally valued for their flowers, but all have very ornamental foliage. The plants are almost

as hardy as Oaks, yet are very attractive when in bloom from August until frost-time. The flowers are borne on long. graceful stems, divided like a plume, and are either light creamy or yellowish-white in color. The foliage is very finely cut and varies from light gray to dark green.

Species. Hawthorn-scented Mugwort. *A. lactiflora* is one of the newest varieties which grows 5 feet high. Its fragrant flowers are produced in late Summer and combines well with the Golden Glow, Buddleia, Hardy Asters, Boltonia, Helianthus and many other of the taller Fall blooming perennials. It shows a tendency to disappear like the Auratum Lily does.

Southernwood, Old Man (*A. Abrotanum*) is one of the old-fashioned border plants. It has yellowish-white flowers and is usually grown for its handsome dark green, pleasant scented leaves.

Old Woman (*A. Stelleriana*) is of creeping habit with silvery white foliage and is one of the showiest of this type of border plants. It grows rapidly and soon covers a large space.

A. Purshiana grows about 1½ feet high and has white foliage.

The Summer Fir or Annual Pine (*A. saccrorum*) is an annual recently introduced from China which because of its fine foliage and rapid growth has become popular for foliage masses.

Uses. Old Woman is much used for carpeting beds or borders. It is good also for the rock garden. The taller plants are used to fill in the shrubbery or as backgrounds or hedges for the lower growing flowers. The foliage and flowers are sweetly scented and adapt themselves well to pot culture and as such are as decorative as many of the Acacias which are prized so much. The blooms also make attractive cut flowers and last well.

Culture. Artemisias like soil which is moist, and it must be rather rich in order to produce good blooms. Free watering and soapsuds have been found to agree with them.

Propagation. They may be grown from seeds, but are usually propagated by division or by cuttings.

Asclepias—Butterfly Weed, Pleurisy Root, Milkweed

The common Milkweeds are members of this genus of plants. *Asclepias tuberosa*, the Butterfly Weed, is one of the showiest and most beautiful of our native plants. The beautiful, flat-topped clusters of bright orange-red flowers are followed by long, curious pods

Butterfly Weed or Asclepias tuberosa. These orange-red flowers brighten the dry spots on banks or in the border.

containing numerous white, feathery seeds. In the wild state the flowers bloom in August, but the flowering season is prolonged if the plants are given good cultivation. In some sections the Butterfly Weed has been largely used as a substitute for Geraniums because of some of the intense orange and scarlet shades of the flowers. However, it grows a little taller, from 1½ feet to 2½ feet.

Uses. The Butterfly Weed is nice for sunny spots in the rockery or border. When found wild they are blooming when many of the surrounding plants are dried up.

Culture. These plants are long lived and capable of taking care of themselves without any attention. They freeze out in heavy soil and should have sandy, well drained soil in full sunlight. The Asclepias is a deep rooting plant and dislikes removal very much. One should be careful that it has completed its growth and every root should be saved, if the plants are to be transplanted from one place to another. Transplanting is usually considered difficult, but many persons have reported success if the hole is filled with sand.

Propagation. Raising them from seeds is the most certain method of propagation. Sow only a few seeds in a pot of rather firm soil, and allow the young plants, which grow slowly, to remain in these pots for at least a year before setting them out.

Asperula—Sweet Woodruff, Waldmeister

Sweet Woodruff (*Asperula odorata*) is a small growing, graceful, sweet scented herb. It has small, white flowers and deep green, whorled foliage. The flowers and leaves when dried have an odor like new hay and when laid among clothes, perfume them and keep away insects.

It grows from 6 inches to 8 inches high and the small flowers, appearing among the foliage, make an exceedingly pretty picture, but the foliage itself is not very attractive.

USES. Sweet Woodruff is fine for cutting purposes, and is used with varieties of the English Ivy for a ground covering among shrubs and under trees. Dried leaves have a very agreeable aromatic odor.

CULTURE. It will succeed when planted in clumps if given a partially shaded position.

PROPAGATION. It is propagated by division and from seeds and increases rapidly. The seeds germinate slowly.

Asphodel—King's Spear

The classic Asphodel is rarely seen in gardens although its interesting, tall and stately spikes of yellow and white flowers are of interest to garden lovers. The Asphodels are variously catalogued as Asphodeline and Asphodelus; the former genus is erect and has leafy stems, the latter is stemless. In *Asphodeline lutea* the flowers are sweet scented and yellow, the stems 3 feet to 4 feet tall. The plants bloom in June. In Bailey's "Standard Cyclopedia of Horticulture" we read that this is the plant mentioned by Homer which grows in the meadows of the dead, where the heroes gathered in Hades. In Greece it is wild and is always associated with waste places and the dead. To us it has no such associations.

The name King's Spear, is often used for this plant. There is, however, another perennial, the Eremurus, which is called by that name.

CULTURE. The Asphodels are excellent border plants, where they may be grown in partial shade or sun. They are suited to most garden soils.

PROPAGATION. The plants are readily divided in Spring or Fall. Seed is advertised in some catalogs.

Aster—Michælmas Daisy

The American who reads English books about gardens is thrilled by the love of the British for Michælmas Daisies. He immediately hunts his own roadsides and delves into catalogs to acquire some of these lovely flowers. For the wild Asters are truly lovely and are an asset to any garden, many of which bloom at a season when the

other flowers are failing and the roadsides are parched after our usual Summer droughts. It is a reflection upon our appreciation of our own native flora to read that there are many selected varieties of Asters, most of which have been produced abroad. In the following table will be found an ample assortment of the commoner Michælmas Daisies, all of which may be grown:

ACRIS NANUS. 1-1½ feet. Lavender-blue. Aug.–Sept. Good dwarf.
ACUMINATUS (Sharp-leaved A.) 1-3 feet. White. Aug.–Sept. Moist locations.
ADVANCE. 4 feet. Lavender. Sept. Free flowering.
ALPINUS. ¾ foot. Purplish-blue and white. May–June. Rockery or front of border; very early.
AMELLUS. 2 feet. Rich violet. Aug.–Sept.
AMETHYSTINUS. 4-5 feet. Amethyst-blue. Oct. Mass of small flowers.
BEAUTY OF COLWALL. 3-4 feet. Ageratum-blue. Sept. One of best doubles.
CLIMAX. 5 feet. Lavender-blue. Sept.–Oct. A superb form of A. novi-belgii.
CORDIFOLIUS (Heart-leaved A.) 1-4 feet. Light lilac. Sept. A common wild sort.
ERICOIDES (Heath A.) 2 feet. White. Sept. Small leaves; common, wild.
FELTHAM BLUE. 2½ feet. Blue. Aug.–Sept. One of best.
GLEN EYRIE. 3½-4 feet. Bright pink. Sept.–Oct. A pink form of A. novæ-angliæ.
GRANDIFLORUS. 2-2½ feet. Bluish-violet. Oct.–Nov. Late; a large flower.
LÆVIS (Smooth-leaved A.) 4 feet. Lilac lavender. Oct. Neat habit, graceful.
LIL FARDEL. 4-5 feet. Mauve. Sept. Showy, form of novæ-angliæ.
MACROPHYLLUS (Large-leaved A.) 4 feet. Lavender-violet. Sept. Dry, shady places.
MULTIFLORUS (Many-flowered A.) 2 feet. White, small. Oct.-Nov. Late.
NOVÆ-ANGLIÆ. (New England A.) 3-5 feet. Purple. Sept.-Oct. Common, showy wild sort.
NOVI-BELGII (N. Y. Aster). 1-3 feet. Blue. Sept.–Oct. Climax and St. Egwyn are forms of this.
PERRY'S FAVORITE. 3 feet. Reddish violet. Aug.–Sept. Form of A. Amellus.
PTARMICOIDES. ½ foot. White. Aug. Stiff stems for cut flower.
ST. EGWYN. 2½-3 feet. Pink. Sept.–Oct. One of best.
SUBCŒRULEUS. 1½ feet. Bluish-violet. May–June. Large flowers; protect plants.
TATARICUS. 5-6 feet. Violet-blue. Oct. Late sort; one of tallest.
WHITE QUEEN. 4 feet. White. Sept.–Oct. Not as good as some.

USES. To see the various sorts of Asters is to suggest a hundred uses for them: tall sorts as backgrounds for lower perennials; tall sorts in front of evergreens; tall sorts for woodlands and roadsides;

tall sorts for screening fences, ditches; shorter species for bringing a spot of color into the Fall perennial border; all species for cutting and useful for large vases in the home, church or social gathering.

CULTURE. No culture is necessary. Plant them and if given extra food and water they repay us: if not they bloom beautifully to shame us for our neglect. Of course, in the garden where neatness is necessary, we do stake the tall sorts. They seem to grow well either in full sun or partial shade.

PROPAGATION. Cut up the clumps as often as you think of it. They multiply rapidly and one always has a few plants to give to a friend.

Aubrietia—Purple Rock Cress, False Wall Cress

Early in the Spring our eyes search for color in the garden. We grow the Rock Cress (Arabis) for white, Golden Alyssum for yellow and Aubrietia for purple, rose and lavender. But as a matter of fact, few persons have grown the Aubrietias because they have not known of them although the catalogs list the plants.

USE. They are useful in the front line of a perennial border or for the rock garden.

CULTURE. They prefer the lighter soils and full sun. Transplant in Fall or earliest Spring, for at other times they are impatient of being moved.

PROPAGATION. Divide the plants in the Fall. If seed is obtainable, they may be easily started from seed.

Baptisia—False Indigo, Wild Indigo

The Baptisias are strong growing plants with yellow, white and dark blue flowers which somewhat resemble the Lupine, being pea-shaped. The flowers grow on a spike about 6 inches long. False Indigo (*Baptisia australis*) grows about 3 feet high, has dark blue flowers and dark bluish-green leaves cut very deeply to form three oval leaflets. Wild Indigo (*B. tinctoria*) has short leaves and bright yellow flowers. It grows from 2 feet to 4 feet high. These plants bloom from May through July.

USES. These are very striking plants for the border because of the excellent spikes of blue or yellow color. They are also good in the wild garden.

CULTURE. Baptisias should be planted in full sunlight, otherwise they prove to be shy in blooming. They will stand dry, sandy soils.

PROPAGATION. They are usually propagated from seeds and division of the plants which are very woody at the crown. The seeds should be sown as soon as they are gathered and wintered over in the coldframe, where they will germinate the following Spring.

Bellis—English Daisy, Herb Margaret

The Daisy of Europe is the one of which we speak here. Who has not read the words of Burns and Wordsworth, and having read, who has not admired these charming button-like flowers the more? Let us read again several stanzas of Burns:

TO A MOUNTAIN DAISY
On turning one down with the plow.

Wee, modest, crimson-tippe'd flower,
Thou's met me in an evil hour;
For I maun crush amang the stoure*
Thy slender stem;
To spare thee now is past my power,
Thou bonnie gem.

Cauld blew the bitter biting north
Upon thy early, humble birth,
Yet cheerfully thou glinted† forth
Amid the storm,
Scarce reared above the parent earth
Thy tender form.

*Stoure—means dust.
†Glinted—means peeped.

With the Tulips in the early days of Spring the English Daisy (*Bellis perennis*) starts to produce its single or double white, pink, rose and red flowers upon its low plants, for they seldom grow over 3 inches tall. Although they bloom quickly in the Spring, the finest flowers are produced in the Fall when it is cooler.

USES. They are combined with Pansies and Forget-me-nots and are also used as a ground cover for Hyacinths, Tulips, and other bulbs, either in the rock garden, as an edging for borders, or in the early window boxes.

CULTURE. The hot weather is very severe on the English Daisies. They should be planted 6 inches apart each way in cool soil. They should be protected in the Winter and if they are kept in coldframes, will bloom during the Winter as do Pansies and Violets.

Left, **False Indigo or Baptisia, a blue, pea-shaped flower of May;** *right,* **English Daisy or Bellis, cheery edging plants.**

PROPAGATION. The finer English Daisies are propagated by division in the Fall. They grow easily from seed which should be sown in August in coldframes, where they should be kept during the Winter.

Bocconia—Plume Poppy, Tree Celandine

The Plume Poppy (*Bocconia cordata*) is perhaps one of the most imposing plants of the hardy border, for it grows from 6 feet to 10 feet high. The general aspect of the plant is grayish-green in color with very large and deeply cut leaves. The flowers are not very conspicuous but form huge plumes of feathery, small, creamy white blooms. Other varieties have leaves which are silvery under the surface and small white flowers which are red when in bud. The flowering season of the Bocconias is during the Summer months, July and August, but the plumes remain attractive until cut by frost.

USES. The silvery foliage counts as white in the garden; hence, the Plume Poppy can be used where white clumps are needed. It seems adapted to wet places, is good as a specimen plant, and is ex-

Plume Poppy or Bocconia.

cellent for the rear of borders, or to plant in front of tall shrubbery. It can also be used for the centers of beds of flowers.

CULTURE.—The Plume Poppy requires lots of sunlight and a rich soil seems to promote the production of large specimen clumps, but they will grow in any good soil.

PROPAGATION. Bocconia plants grow easily from seed and attain a height of 3 feet to 4 feet the first year. They may be divided and should be confined, because the plants sucker very badly and will soon spread throughout the garden.

Boltonia—False Starwort, False Chamomile

The Boltonias bloom at the same time and resemble some of the wild Asters of the garden and woodland. The leaves are long and grayish and in these characteristics are roughly distinguished from the perennial Asters, or Michælmas Daisies.

The catalogs commonly list three sorts: *B. asteroides*, a tall, white sort growing 4 feet to 5 feet tall, blooming in August and September; *B. latisquama*, which is similar to the former sort but with pinkish lavender flowers; and *B. latisquama nana* which grows only 2 feet tall. The colors are not strictly the distinguishing characteristics, but as the catalogs usually agree, we shall pass on to add that the flowers of *B. latisquama* are generally larger than those of the first species.

USES. The Boltonias, because of their great height, are highly desirable in large perennial borders because the plants literally bear thousands of star-like flowers. They serve excellently as cut flowers.

CULTURE. The plants are of the simplest culture, taking care of themselves when established. Sometimes when the soil is rich, they grow a bit too tall for their strength. Their appearance is then improved by staking.

PROPAGATION. The seeds usually grow successfully, but the plants are readily divided into pieces in the Spring. Frequent division is advisable as the plants reproduce rapidly.

Buddleia—Butterfly Bush, Summer Lilac

Buddleias have made a great place for themselves in the garden where their abundant bloom, attractive color and delicate fragrance wins our admiration the first time we become accquainted with them. These plants are nearly hardy shrubs, but because of our cold Winters they serve as perennials with us.

SPECIES. *B. variabilis* is a species bearing erect panicles of lilac-colored, fragrant blooms with orange throat markings. The stems of

Butterfly Bush or Buddleia. Superlative adjectives only can describe this lilac flowering plant. A shrub treated in the Northern States as a herbaceous plant.

bloom are 12 inches to 15 inches long and 3 inches in diameter. The species was introduced by Wilson from China. The plants although frozen to the ground nearly every Winter, will start up nicely and grow 6 feet to 8 feet tall. The minimum temperature which the roots will stand seems to be about 10 deg. below zero. There are several varieties but *B. v.* var. *magnifica*, which blooms from June until October, is the best form because of its superior flowering habit.

USES. Buddleias make excellent cut flowers. As a garden subject they make attractive specimen plants. Besides their charming color and fragrance, they are rightly named the Butterfly Bush, because they are continually covered with handsome butterflies.

CULTURE. Plant Buddleias in well drained soil, and they will bloom the first year after planting. Many growers seem to believe that protected plants freeze as readily as those given no covering of any sort.

PROPAGATION. The best method of propagation, if a greenhouse is available, is to make cuttings in September and October and grow them through the Winter in the greenhouse, in which case they will be large blooming plants by Springtime. Outofdoors, the Buddleias are readily propagated from young shoots rooted either in sand or water. It is a bit difficult to get the young plants through the first Winter in the severer climates.

Cactus, Hardy—Opuntia, Echinocactus

The Cacti, as everyone knows, are plants with thick, fleshy stems covered with spines, for usually there are no leaves. The Opuntias, which are perhaps the most common ones grown in the northern states, have large and flat branches. They have many colored spines and exquisite flowers. The spines are black, brown, purple, yellow or straw colored and white, while the flowers are pale pink and yellow. The Comanche Cactus (*O. Camanchica*) has large yellow flowers and purple fruit. The Hedgehog Cactus (*Echinocactus Simpsonii*) is very small and grows into a globe with pale pink flowers. Other hardy Optunias are *O. vulgaris*, *O. phæacantha*, *O. polyacantha*, *O. arenaria* and *O. Rafinesquii*.

Uses. The hardy Cacti are used mostly in the rock gardens, although many of them are used in the borders and in dry, rocky places.

Culture. Cacti require a light, open and porous soil, containing lots of leafmold, loam and sand. There should also be enough lime present to keep the soil from souring. They need water in the Summer but not during the Winter. Plant them in full sun.

Propagation. They are propagated by seeds and cuttings taken from the old wood rather than the soft stems.

Callirhoë—Poppy Mallow

The Poppy Mallow has long, trailing stems with many saucer-shaped or Poppy-shaped flowers. These flowers are borne in the axils of the leaves and vary in color from rosy crimson to cherry red and rose, with white centers. *Callirhoë involucrata* is the most useful species and blooms all during the Summer and early Fall. The leaves are deeply cut and hairy. Height 6 inches to 8 inches.

Uses. The Poppy Mallow is good for small borders, or for the rock garden.

Culture. It is of easiest culture, growing rapidly during the Summer months. It thrives in sunny, dry positions, where the roots penetrate to a great depth.

Propagation. These plants exhaust themselves easily and should be renewed often. They are propagated by seeds and cuttings.

Campanula—Bellflower, Canterbury Bell, Harebell, Peach Bell, Bluebell

Canterbury Bells; glorious large bells of pink, purple and white. A biennial.

There is hardly a group of flowers which possess such rare beauty as does the large genus of Campanulas. There are many sorts, some growing 2 inches high and some from 4 feet to 6 feet high, but all have more or less bell-shaped flowers in lovely colors: white, clear pink, blue, rose, purplish-rose, violet-blue and lavender. All of them are desirable and seem to just fit in their various places from the formal border to the rocky ledges of the woods. Most of them bloom during June and July. The Canterbury Bells (*Campanula Medium*) and its cup and saucer variety (*C. M. calycanthema*) are perhaps the most showy and satisfactory of the whole group. The flowers are very large, in lovely whitey pink, blue and deep purple. The stalks of bloom are about 2 feet, tall and they are very effective when planted with the early blooming varieties of Phlox. The Peach Bells (*C. persicifolia*) grows from 2 feet to 3 feet high and its flowers, in blue or white, are more shallow than bell-shaped. It has narrow leaves and is very graceful. Of this species, *Moerheimei* is the best white; some sorts are double.

The Chimney Bellflower (*C. pyramidalis*) is the tallest one. It sends up long stalks of porcelain-blue and clear white flowers in August and continues blooming for six weeks. When in full bloom, the plant seems to form a perfect pyramid. Of the dwarfer varieties, which are beautiful and useful in rock gardening, the Carpathian Harebell (*C. carpatica*) is probably the most popular. It grows in dense tufts, not exceeding 8 inches in width, and is covered with clear blue flowers borne on wiry stems. The Scotch Harebell, the Bluebell of literature, is the *C. rotundifolia*. It is an attractive flower having most dainty little bells

of blue which appear during late Spring. This sort is found wild in many of the hills and mountains of our country and possesses a sort of unexcelled daintiness.

Uses. The uses are almost as varied as the numerous forms. The dwarfer varieties are especially suited for small borders, for baskets and the rock garden. The tall ones, especially the Chimney Bellflower, are adaptable for pot culture or as specimen plants and make a beautiful decoration for the terrace or porch. The other varieties are excellent in the border or to use as cut flowers.

Culture. Campanulas should be given full sunlight and should not be crowded in the beds. The taller varieties need staking to prevent injury from the high winds. They like a good, rich soil, and in the Spring a little fine manure and some bonemeal should be dug around each plant. Most of the varieties, especially the taller ones, need Winter protection, for if allowed to stand naturally, the heavy snows will flatten the crown of leaves to the ground, causing it to decay. Forest leaves should be packed between the plants, holding the leaves of the Campanula together with one hand. Evergreen boughs, straw or hay will serve for the dwarfer ones. If the flowers are cut immediately upon fading, the blooming season can be prolonged for several weeks.

Propagation. Most of the Campanulas are biennials. For this reason seed must be sown each year in order to have plants which will bloom the next year. A mistake, commonly made, is in sowing the seed too late. It should be sown any time from May until August, according to the variety, in rich soil which has been carefully prepared, and it should be watered daily. The plants should be hardened gradually, after they have been wintered over in coldframes, and can be removed to the open ground in May. The rows should be 12 inches apart, with an almost equal amount of space between the plants. Campanulas are also propagated by cuttings and division.

Caryopteris—Blue Spiræa

This Blue Spiræa is another one of the good, Fall blooming plants. It is shrubby in nature, growing from 3 feet to 4 feet tall with small leaves and clusters of small, rich lavender-blue flowers. It begins blooming in September and continues until cut by the frost. The flowers are arranged in whorls at the axils of the leaves and bloom al-

Upper left, **Poppy Mallow or Callirhoe, spreading its mat of color over the soil all Summer;** *lower left*, **Turtle Head or Chelone, a wild flower to introduce to the garden;** *upper right*, **Clematis, a blue sort which does not produce a vine;** *lower right*, **Carpathian Harebell, a Bellflower of use for edging.**

most the entire length of the stem. *Caryopteris Mastacanthus* (*incana*) is the common species.

USES. This plant is excellent to place in front of tall, white flowered perennials. It is sometimes grown in pots.

CULTURE. It requires protection in the Winter for it is liable to winterkill in the North, but with protection from the cutting north winds and good drainage, it will live through severe Winters. It requires sunshine and a sandy loam.

PROPAGATION. The branches root easily in water. It is propagated from seeds in the Spring or from cuttings taken from the plant in Summer or Fall.

Cassia—American Senna, Indian Senna

A bold perennial for large masses, *Cassia marilandica* is an attractive addition to the large perennial border. The flowers are pea-like, yellow, with a dark center and are borne in large clusters. The leaves are locust-like; that is, they are finely divided. The plants grow 4 feet to 5 feet tall and bloom in August and September.

USES. Large masses planted among shrubbery or in a wide perennial border are attractive. It may even be used as a hedge, for the plants are rather woody.

CULTURE. Give the plants sun, and if a moist soil is available, they will be at home in it.

PROPAGATION. Cassias produce a large quantity of seed which grows readily if sown as soon as ripe. The woody clumps may be divided with a hatchet.

Centaurea—Knapweed, Hardy Cornflower, Hardheads, Mountain Bluet

The Centaureas are some of the most graceful flowers to grow in any garden. The flower heads are like showy, ragged thistle blooms of bright red, deep purple, golden yellow and blue. They grow from 2 feet to 3½ feet tall and bloom during the Summer months.

SPECIES. The Golden Knapweed (*Centaurea macrocephala*) is perhaps the showiest of all because the thistle-like, golden yellow flower heads are very large. The plant itself is an erect and somewhat spindly grower and the stems are stiff.

The Mountain Bluet (*C. montana*) has numerous deep blue flowers somewhat resembling the annual Cornflower and grows 1½ feet tall.

The Knapweed (*C. dealbata*) has flowers which are lilac-pink to white in the center, or a bright red. This species seems to attract the birds when the seed is ripe, thus making it hard to save the seed.

C. babylonica is a whitish perennial with yellow flowers which grows at least 3 feet tall.

Several of the species are known as Dusty Millers; the foliage is white throughout the Summer. *C. cineraria* (catalogued as *candidissima*) has less divided leaves than the other common species *C. gymnocarpa*, but the leaves are usually whiter.

Uses. Centaureas are used for the perennial border, for pots, baskets and the rock garden. The Golden Knapweed is the largest flowered sort and is most attractive planted among shrubs. Most of these plants produce long stemmed and lasting flowers which are admirable for cutting.

The Dusty Millers have a real place in the garden for there is no contrast so charming as that between the bright colors of most perennials and the gray or whitish leaves of these plants. They may be clipped low as edging plants.

Culture. Cetaureas are of very easy culture. They bloom best when planted in an open, sunny position, with any good garden soil. Clip back the Dusty Millers to keep them at the desired height and form. The blooms are not valuable.

Propagation. They are propagated from seeds, although some of the sorts may be readily divided. The Dusty Millers are increased both by seeds and cuttings.

Cerastium—Snow-in-Summer, Mouse-ear Chickweed

Snow-in-Summer is surely a very descriptive name for this low growing, white flowered and silvery foliaged plant. There are myriads of small white flowers produced in June from a dense mat of growth. *Cerastium tomentosum* is the common species and grows about 6 inches high. *C. Biebersteinii* is very similar but grows a little taller and has larger flowers. *C. arvense* is a green leaved species and stands the hot Summers better than the other two.

Uses. These plants are invaluable for the rockery or as an edging for beds and borders. They are also excellent to plant in dry,

sunny places as a carpet covering for graves or steep banks. The leaves are as valuable as the flower.

CULTURE. The plants are very easily grown in any soil.

PROPAGATION. They are propagated by seeds, cuttings or divisions of the plant. The plant should be divided very early in the season, either with or without roots, and planted deeply in well firmed soil which sould be kept moist until roots have formed.

Chelone—Shell Flower, Turtle Head, Snake Head

The Chelone is sometimes confused with the Bearded Tongue (Pentstemon), to which it is closely related. It is a late Summer plant, coming into bloom about the middle of August and lasting for six or seven weeks. The Shell Flower (*Chelone glabra*) has clusters of flowers of a light creamy white. The plants grow about 3 feet tall. The Turtle Head (*C. Lyonii*) has rose-purple flowers which grow from a mass of deep green leaves. The flowers of Chelone are inflated and long, tube-shaped, somewhat resembling the Snapdragon.

Left, **Snow-in-Summer or Cerastium, snowy masses of white flowers borne upon low plants with white leaves;** *right*, **Coreopsis, a well-known flower for cutting.**

Uses. Because of their season of bloom and their rather attractive colors, they make good plants for the border, or to plant along streams. S. N. Baxter suggests the Shasta Daisy as an effective foreground companion plant.

Culture. Chelones thrive best in moist or swampy places, in half shade. They are easy of culture. At blooming time, they should be fertilized or mulched deeply in order to conserve the moisture.

Propagation. They are propagated from seeds, cuttings or divisions of the roots made in the Spring.

Chrysanthemums, Hardy

October and November are the months which marshal in the Chrysanthemums and if these months be cold and rainy, the flowers do not develop well, but if the days are warm and the nights frosty, but not freezing, these flowers are in the height of their glory.

"All through the budding Springtime,
All through the Summer's heat,
All through the Autumn's glory,
They hide their blossoms sweet.

"But when the earth is lonely,
And the bitter north winds blow,
With a smile of cheer for the dear old year,
The lovely Christ flowers blow."

The catalogs are now listing certain varieties such as Cranfordia, Normandie, Ruth Cumming, Mme. August Nonin and Eden, which are known as early flowering varieties. One is more apt to get blooms before freezing weather when these sorts are grown. Some of the earlier Pompons of the florists are hardy but only bloom early enough in the most favorable years. Such varieties as Lillian Doty, Garza, Golden Climax, Zenobia and Tiber belong to this group. It is suggested that for the most northern gardens principally the earliest sorts be chosen, for it is a great disappointment to have the buds freeze just as they start to open. However, the Pompon group will actually stand more real freezing than the early flowering varieties.

For Shasta Daisy, see p. 74; for Pyrethrum, p. 146; also Daisy, p. 74.

Culture. Chrysanthemums will grow in any garden soil that is rich enough, for they are gross feeders. Buy plants in early Spring or divide old plants and reset each Spring, otherwise, they will become too crowded and impoverish the soil. Extra large blooms may be pro-

duced by feeding with liquid manure when the buds appear. Larger flowers may be secured by pinching off most of the smaller buds on each stem. When the plants make too rank a growth early in the season they may be cut back to cause them to branch and become more compact. If the plants are thoroughly soaked with water once or twice a week during the hot Summer, they will please us by producing better buds and flowers.

Protect the plants during the Fall rains and from the frost with a canvas covering. Chrysanthemums have to be supported by tying to stakes or to wires stretched horizontally above the bed. Cover with a light mulch during the Winter. The mulch should be more of the nature of a sun shade rather than a warm covering. It is easy to suffocate the plants.

The plants are frequently troubled with mildew which can be prevented from spreading by dusting with sulphur early in the morning when the dew is on the plants.

Plants affected with lice should be sprayed every few days with Black leaf 40 or some other tobacco extract until the bugs are all killed.

Propagation. The simplest method of increasing the number of plants is to divide them in Spring. One can make cuttings, however, of the tops of the growing plants.

Cimicifuga—Bugbane, Bugwort, Virginia Snakeroot, Black Cohosh

To all persons who are familiar with the common wild or native woodland plants, the Snakeroot is well known. This Snakeroot (*Cimicifuga racemosa*) is a very tall, late blooming plant, growing from 4 feet to 8 feet tall and flowering from July or August on. The large leaves are cut very deeply and the flowers, small, white, feathery and closely set, are borne on long stalks. Often over 18 inches of the stem is in bloom at one time. *C. dahurica* has long spikes of creamy-white flowers in September and grows about 6 feet tall. *C. simplex* is the latest sort and does not bloom until October, and its graceful stems of white flowers are only 2 feet or 3 feet high. The long flowering stems of all the Snakeroots droop slightly and give the plant an appearance of dignity and stateliness. The buds are like large pearls.

Uses. All of the Snakeroots are suited to moist and shaded positions, and because of this, they naturalize themselves very easily along the edge of woodlands. The taller species are well suited for

planting at the back of borders. All are good to use for cut flowers, but *C. simplex* is especially so, because its flowers last longer when cut.

CULTURE. Snakeroots like moist conditions which are partly shaded, but they will endure the sun. They thrive best in rich, leaf-mold soils.

PROPAGATION. They are propagated by division of the plant or by seeds sown as soon as ripe.

Clematis—Shrubby Virgin's Bower

We shall speak here not of the climbing Clematis, but of the lower growing sorts useful for massing, all of which form dense bushes 2 feet or 3 feet tall.

Clematis Davidiana blooms nearly all Summer, has Hyacinth-like, bell-shaped, pale blue or lavender blue flowers in small clusters, which are very fragrant. *C. heracleæfolia* is very similar but with paler flowers. *C. recta* has creamy-white, fragrant flowers, opening in June and July. All of the flower clusters are showy and are followed by fluffy silken seed heads. The leaves stay a bright dark green all Summer.

USES. Many of the species are desirable for cutting. In the garden they should be planted in masses or used as specimen plants. *C. recta* is especially valued for large masses of white flowers.

CULTURE. These plants are adapted to partial shade. They prefer a loam soil and seem to like lime.

PROPAGATION. They are propagated by division of the plants or by cuttings.

Convallaria—Lily of the Valley, May Bells

The poet has given the name to the Lily of the Valley, and the botanist, not as prosaic as usual, has translated the name to the Latin word *Convallaria*.

> "No flower amid the garden fairer grows
> Than the sweet Lily of the lowly vale."

USES. We must have this favorite with us the year round. In the Winter the florist grows Lily of the Valley in the greenhouse for weddings and for bouquets of various sorts. When they bloom in our gardens we cherish them as highly as any other flower for the

lapel, the corsage or for the small vase. In the garden they grow in the shady spots where some other flowers become pouty and will not grow.

CULTURE. The culture is of the simplest. Give them shade and enrich the soil with manure applied in the Fall as a mulch. They increase rapidly and need to be replanted every three or four years in order that large flowers may be obtained.

PROPAGATION. When old clumps are dug they naturally fall apart and no plant could be easier to propagate.

Coreopsis—Tickseed

Coreopsis is surely one plant that should be in every garden as it is one of the most popular hardy, yellow flowers. The common name, Tickseed, is very appropriate, because the seed of the plant looks like a bug; however, the flowers are exceedingly attractive. They first begin to bloom early in June and are a mass of gold until the frost kills them. The leaves are light green and narrow, while the flowers, which look like a Daisy, are golden yellow in color and measure from 2 inches to 3 inches across. The plant is bushy and spreading and the stems of the flowers are strong, wiry and graceful. *Coreopsis lanceolata grandiflora* is the species most worthy of cultivation. The plants attain a height of 3 feet and are especially in their golden glory during June. *C. verticillata* is a small flowered species with finely cut foliage. The plants bloom all Summer and grow 12 feet tall. *C. rosea* is an interesting little plant, never much taller than a foot, and with rosy-pink flowers and fine leaves. This sort has creeping root stocks.

USES. *C. lanceolata grandiflora* is invaluable for use as cut flower on account of its long, wiry, leafless stems. All sorts are good in the border where huge clumps are very showy.

Coreopsis is nearly always planted in front of Delphiniums, and they combine well with Shasta Daisies.

CULTURE. They are of easiest culture, but prefer sunlight and rich, damp soil. The flowers must be kept picked in order to insure a long blooming period. If planted on the north side, they should have slight Winter protection, such as coarse straw or Pine boughs.

PROPAGATION. They are propagated by seeds and division of the plants. If the seeds are sown very early, the plants will bloom the first year, but if they are planted in July or August, the plants will bloom the succeeding year. Seeds should be sown every year, since the older plants tend to get woody and do not bloom as well.

Daisies

Shasta Daisy, the giant among fortune tellers.

The word "Daisy" was formerly written Day's Eye, and the Daisies are really well named, for there is no season in the garden when some sort of Daisy is not in bloom.

The Shasta Daisy, *Chrysanthemum maximum*, is like a field Daisy seen through a magnifying glass. Most of us like the bright, Daisy-like flowers and we are delighted with the Shasta Daisy because it blooms so freely and has long stems useful for cutting. As garden subjects they are low growing and are charming for use as edging plants. They are readily propagated, both by seeds and division of the plants. Dampness in the Winter, not cold, injures them. If a light covering of straw is given during the Winter they will be well protected, but a thick covering will do more harm than good.

The Giant Daisy (*Chrysanthemum uliginosum*) has a white flower, but differs from the field Daisy in that the plants are 4 feet to 7 feet tall. They are propagated by seeds or division and it is said that they bloom the first year from seed. They are good background perennials and are also useful for cut flowers. Low, moist places are ideal for this Daisy. They are successfully naturalized.

For Pink Daisy, see Pyrethrum, p. 146, and English Daisy, see Bellis, p. 58.

Daphne—Garland Flower

The Sweet scent of the Daphnes, together with the fact that one sort is evergreen and another blooms in Midwinter, endears the Daphne to the lover of garden gems. These plants are really shrubs, but because of their low growth and general habit, they more closely resemble the herbaceous perennials.

Daphne Cneorum (Garland Flower). The bright pink, four-parted, fragrant flowers and evergreen leaves combine to make this plant truly beautiful. The plants are hardly a foot tall and bloom in April and in October.

Daphne Mezereum (Spurge Flax), not being evergreen, surprises us by producing lilac-purple flowers any time from February to April. This sort grows 3 feet tall.

Uses. The Daphnes are adapted to the border, although the Garland Flower is admirably adapted to a rock garden.

Culture. They grow in full sun or partial shade and light soils. Give them protection in Winter.

Propagation. One can layer branches of the Garland Flower in the Spring, but the Spurge Flax is not readily propagated by the amateur.

Delphinium—Larkspur

Old John Parkinson, nearly 300 years ago, wrote "Wee call them in English Larkes heeles, Larkes spurres, Larkes toes or claws." The Larkspur is surely one of the oldest old-fashioned flowers but it is becoming more popular today than ever. How choice are its colors! How suggestive is the word "lark" in christening this flower, as the lark comes from the sky, so comes also the color of the Larkspur. From the azure of the sky to the deep blues of the ocean depths is its range of blue. But blues are not the only colors; there are the pastel shades, not blue, nor pink, which suggest the combinations of color in Copenhagen pottery. There are the dainty double pink sorts which suggest magnificent brocades. And what gems we find! Deep sapphires, superb amethysts, subtle turquoises and rich garnets. Like tiny peace doves are the white sorts.

And in form, how diverse! We see the dolphin in the unopen bud. We note a bee gathering nectar from a bloom and find, instead, that it is the hairy petals at its center. We regard the tall spikes and see them covered by countless horns-of-plenty, some of them pouring gold.

Uses. Can a garden be planted without Larkspurs? Foliage flower, habit and all, every garden lover must have them. The tall, the short, the perennial, the annual—they are indispensable in their chosen places. Consider the long season of pleasure at seeing them in full splendor. Day after day in June, July, and often in September, new spikes open their blossoms. Erect and stately against a fence, majestic accents in a mixed border, sturdy and hardy in the cottage garden, as well as modest and delicate in the beds of annuals, the Larkspurs are incomparable.

Varieties. The catalogs should be consulted for varieties of Larkspurs; there are many very superior named sorts and in all cases more to be trusted for color and habit than plants grown from seed.

A noble clump of hardy Larkspur

The modern race has been greatly improved through years of effort, especially in England. Recently we in America are developing varieties of our own which are better suited to our climate. Besides the tall sorts, the garden lover should note the Chinese Larkspur listed in his catalog. This is a true joy as it blooms throughout the Summer, yielding short stems crowded with white, pink or violet flowers. The Chinese Larkspurs differ from most other perennial sorts by having finely divided leaves. The real enthusiast is tempted by

reading the descriptions in the catalogs of certain sorts listed as *Delphinium nudicaule*, a dwarf orange-scarlet, *D. Zalil*, a yellow, *D. cardinale*, a bright red. These sorts do not have the robust constitution nor the hardiness of the other kinds but they are worth trying.

Culture. Delphiniums like plenty of sun. The soil should be rich, deeply prepared, a cool, friable loam. Even hot, sandy soils, if watered and fertilized, will produce excellent results. Moisture will increase the size of the flowers and spikes. Cultivate the plants constantly with the hoe. Many of the taller sorts are benefited by being staked. If the plants are cut back after blooming and given a period of rest, during which they are neither watered nor cultivated, then if given bonemeal and an abundance of water, they will send up a second crop of bloom in the Fall. Some persons believe that this weakens the plants. No seed should be allowed to form to keep the plants in a blooming condition.

Troubles. Some of the best sorts are frequently troubled with blight so that they sometimes live only a few years. Dig dry Bordeaux Mixture about the crowns or spray weekly with ammoniacal copper carbonate. In fact, keep the plants covered with this spray from early Spring until Fall. The foliage is blackened by blight. If you suspect that blight is in your soil, use bonemeal as a fertilizer, but never use manure.

Sometimes cut worms and slugs eat the crowns of Delphiniums, so that it is wise to cover the crowns of the plants with ashes at the approach of Winter. Also use a poisoned bait spread at intervals near the plants.

Propagation. Larkspur seed over a year old will not grow. Except for *D. grandiflorum*, the Chinese Larkspur, the seedlings will not produce flowers the first year unless sown in March in a hotbed or sunny window. Usually, however, fresh seed is sown in August, in which case they will bloom the next year.

Divide the plants every three or four years in order to keep them from exhausting the soil and becoming too compact in growth.

The double sorts, which produce no seed, may be rooted from cuttings. Some persons are successful in rooting these in frames during Spring. Samuel N. Baxter in the *Florists Exchange* advises burying the cuttings in a heap of soil, head first, with only the cut ends exposed. The drying of the wounds for several days causes them to root more easily.

Dianthus—Hardy Pinks, Sweet William, Maiden Pink, Grass Pink, Pheasant's Eye, Chinese Pink, Picotee, Carnation, Clove Pink

The Pinks and the Sweet Williams are still one of the old-fashioned favorites for the garden. There are many species and varieties, nearly all of which make dense tufts of grass-like growth.

Sweet William, an old favorite appearing at its best.

The Sweet William (*Dianthus barbatus*) is gorgeous when in bloom. The early English writers used to tell us that the narrow-leaved varieties were called Sweet Johns and the broad-leaved sorts Sweet Williams. However, the sweetness and beauty of the flowers compensate for the lack of knowledge about their namesakes. The color scheme ranges from purest white to blackest red with an infinite number of variations and combinations of colors. The pink sort, known as Newport Pink, is a very desirable one with a distinct new color which florists call watermelon-pink or salmony-rose. The Sweet Williams grow from 1 foot to 1½ feet tall and bloom all Summer. The flowers are arranged in large clusters of bloom and those which are ringed and spotted are very novel.

The Clove or Garden Pinks (*D. plumarius*) are low growing plants which bloom in early Spring. The single and double flowers have fringed or jagged petals and are very fragrant. The colors range from white to bright scarlet and are very dainty, growing above a dense tuft of gray-green, grass-like leaves.

The Chinese Pinks (*D. chinensis*, var *Heddewigii*) is a biennial; that is, the seeds must be planted every year in order to have flowers the next. They also have a wide range of color and markings and are very popular. The double forms are especially attractive and the petals

Clove Pink. Incomparable for edging.

are often deeply and oddly cut. These sorts lack fragrance. They bloom later than the others and last till frost-time.

Another interesting sort with flowers much like a Carnation is *D. latifolius atrococcineus*, the Everblooming Sweet William, which has intense crimson, double flowers. The plants grow 18 inches tall and are constantly in bloom in Summer.

Among the dwarf varieties are found the Maiden Pink (*D. deltoides*), a dwarf trailer with rosy-pink or white flowers which open from June to August.

Uses. The Pinks are very fragrant and free bloomers. They are good for cutting, and for the rock garden, together with the drawfer sorts. All are good for edgings or to use in borders.

Culture. All of the above Pinks, are of easy culture and except for the Sweet William and the Chinese Pinks, last for many years. All like a warm soil and one that will not become too wet at any time. The plants will die out quickly if the soil is not well drained. They should be divided often, else the plants will choke themselves out. The Sweet William should be treated as a biennial, sowing the seed each year. When not propagated each year the plants and flowers are not as large.

PROPAGATION. These plants often self-sow. They are all readily propagated from seeds sown in rich soil in April or May, although good sized plants may be grown from seed sown in Midsummer. The double sorts must be propagated from cuttings if they are to come true. Layering has proven the easiest and surest way of propagating the Garden Pinks (*D. plumarius*).

Dicentra and Dielytra—Includes Bleeding Heart, Squirrel's Corn, Dutchman's Breeches

The grace of the Dicentras charms us whether in the woods or the garden.

The Bleeding Heart, *Dicentra* (*Dielytra*) *spectabilis* is one of our most showy old-fashioned flowers which everyone loves. It grows from 2 feet to 4 feet tall and spreads out almost the same distance. The leaves, which are a light, transparent green, are very neat, exceedingly graceful and very fern-like. The flowers are heart-shaped, varying from a light pink to a rosy-crimson in color, and are produced in sprays along the stems. Have you ever taken one of these flowers apart to discover many interesting things—the two rabbits, a harp,

Right, **Bleeding Heart or Dicentra, an old-fashioned flower of quaint charm;** *left*, **Gas Plant or Fraxinella, interesting not only for its flowers, but also for its seed capsules.**

grandpa's glasses and a bottle? The Bleeding Heart is closely related to many of our daintiest woodland flowers.

The Squirrel's Corn (*D. canadensis*) has small tubers resembling a kernel of Corn, the white flowers tipped with rose. The Dutchman's Breeches (*D. Cucullaria*) has white flowers tipped with creamy yellow, the flowers closely resembling their namesake. Both of these sorts are natives.

The Plumy Bleeding Heart (*D. eximia*) is said to have the handsomest foliage of any border plant. Its flowers are rosy-pink and it is in bloom from May through August. It grows 9 to 12 inches tall and is a most worthy plant. The other Dicentras bloom earlier—in April, May and June.

The Golden Ear-drops (*D. chrysantha*) has golden yellow flowers, but is not so well known as the other native ones.

Uses. The Bleeding Heart is fine for the border or margins of shrubbery. It is also grown as a pot plant and it forces so well that it is useful as a window plant. The native or woodland species naturalize beautifully along woodland walks, in the rock garden or in beds of ferns.

Culture. As soon as the flowers of the Dicentras have finished blooming, the foliage dies down. This makes it difficult to keep track of the various sorts unless they are in locations not easily forgotten. They are very easy of culture, doing well in either shady or sunny positions, although they are more at home in the shade. They like a rich, light soil.

Propagation. They are propagated from seeds, division of the roots, or from young shoots which start from the soil in early Spring. These shoots or the roots should be divided just before they start growth.

Dictamnus—Gas Plant, Burning Bush, Dittany

The Gas Plant is surely one of our most interesting plants. The glossy, leathery leaves are dark green and retain their deep color until late in Fall. The white, pink and purplish-brown flowers are borne on spikes 2 feet to 3 feet high. Both the foliage and flowers are fragrant and when the parts are crushed in the hand, they have the fragrance of a lemon. The Gas Plant begins blooming shortly after Memorial Day, and the seeds ripen about the middle of August. The whole plant gives off a strong, volatile oil which will give a flash of light if a lighted match is held under the clusters of seed capsules on a sultry

Summer evening. This Gas Plant (*Dictamnus albus* or *Fraxinella*) is a very strong grower and when once established, many dozen stalks of bloom can be had to a single plant.

USES. Because of its large trusses of flowers and fascinating odor, the Gas Plant always finds a place in the hardy border, or as a single specimen. They make excellent cut flowers.

CULTURE. The Gas Plant dislikes disturbance very much. When once planted it should be left in the same position always, for as the plants grow older they will then produce many more and taller flower stems. They require hardly any care, but prefer a rather heavy and moderately rich soil in an open, sunny position. When once established drought does not affect them.

PROPAGATION. They are more easily raised from seeds than by root division. The seeds should be sown as soon as they are ripe in the Fall. If the seed is sown in the Spring, pour boiling water over them first, or they will not germinate easily. It takes from two to four years for the flower spikes to appear on young plants. The roots, being very hard, may be divided with difficulty.

Doronicum—Leopard's Bane

The Leopard's Bane is one of the few hardy plants which blossom very early in the Spring and continues into the Autumn. It grows about 2 feet high and has broad, oblong leaves of a rich, soft green color which appear with the first signs of Spring. The single flowers are produced on long, stiff stems and resemble a very large yellow Daisy with a yellow center. In fact, these are the earliest yellow Daisy-like flowers. *Doronicum plantagineum excelsum* is the most commonly cultivated sort. The flowers are 4 inches in diameter and the plants grow 3 feet to 4 feet tall. They begin to bloom in early Spring and continue through the Summer. *D. caucasicum* grows 12 inches to 18 inches tall. The catalogs also include *D. austraiacum* and *D. Clusii* as being good sorts.

USES. Because of their long, straight stems, they make excellent cut flowers and they last for a number of days when placed in water. Because of their rich golden color, they are splendid for the border, for they begin blooming when yellow flowers are rather scarce. If placed in pots, they can be easily forced into flower during the Winter months for the window garden. They succeed well when planted among the Spring bulbous flowers and shrubs or in the rock garden, and

they are equally attractive when planted in masses or when used as single plants.

CULTURE. They grow readily anywhere if planted in rich loam and are equally good in shady or sunny positions.

PROPAGATION. The plants should be divided soon after they finish flowering.

Digitalis—Foxglove, Witches' Thimbles

"The Foxglove, in whose drooping bells the bee
Makes her sweet music."

—B. CORNWALL

A well grown Foxglove in full flower is a plant of dignity and beauty. The long flowering spikes grow from 3 feet to 6 feet tall, rising high above large clumps of broad, downy leaves. Upon the flowering stalk, the flowers open slowly as the impulse to bloom moves upward. This tends to lengthen the blooming season. The flowers are tubular or bell-shaped and hang closely on one side of the stem so that sometimes four rows try to occupy the same position. This arrangement is more apparent than real, for the flowers really originate on all sides of the stem, but the short stems somehow twist around so that they all seem to be on one side. These spikes which are so tall and erect, bear the small, thimble-

A mass of Foxgloves we all may have.

like flowers in many colors—white, lilac, purple, rose and yellow—with odd and various shadings and markings. They bloom in June and July.

D. purpurea is the commoner sort and bears purple to white flowers. There is, however an interesting form of *D. purpurea*, known as Monstrosa, or the Mammoth Foxglove, which has a large saucer-shaped flower surmounting the spike.

D. grandiflora (*ambigua*) is the yellow flowered species. It has smaller, narrower leaves and does not attain the height of *D. purpurea.*

The Wooly Foxglove (*D. lanata*) is an interesting sort with long, dense spikes of small, grayish flowers marked with yellow. This sort does not resemble the other Foxgloves.

Uses. They are planted in masses in the garden among the shrubs, in solid beds, in the border, in the orchard or naturalized on the edge of the woods or along brooks. Wherever they are planted, they give an appearance of strength and dignity. They are excellent for decorations where tall-spiked flowers are needed.

Foxgloves are beautifully combined with Sweet Williams and Hardy Grass Pinks. A whole border of this combination is suggested.

Foxgloves need no edging plants as their foliage is most attractive, even at the soil.

Culture. Foxgloves succeed well in any garden soil which has been enriched with old manure. They naturalize very readily in half-shaded positions, but will grow in full sunlight if the ground is moist. If the main flowering stem is cut after it has finished blooming, many others will come up. Liquid manure should be given to the plants during the flowering season. They require a light Winter protection, which must not be given, however, until after a good freezing of the soil. Dry leaves or pine boughs will serve as a sufficient covering for the foliage. Dampness, either from ill-drained soil or too much mulching, will injure the plants quicker than anything else. The leaves must be kept dry and on mild days plenty of air should be given to prevent sweating and heating.

Propagation. Foxgloves are propagated most easily from seeds which should be sown every year in order to have blooming plants the next year. The Foxgloves are treated as biennials. The seed should be sown in late Summer or Fall and wintered over in the coldframe. When the plants are once established they should not be disturbed, although new plants can be started by root division.

Echinacea—Purple Cone Flower

The bold and hearty character of the Purple Cone Flower makes it a striking plant. The flowers are rosy purple with dark, stiff, quill-like centers touched with golden crimson. *Echinacea purpurea* is the common sort and is frequently listed in catalogs under *Rudbeckia purpurea*. Sometimes when plants are raised from seed objectionable muddy colors are obtained which are not worthy a place in the garden. The plants grow 3 feet to 4 feet tall and bloom from July until frost. The leaves are large and thick.

Uses. The drooping character of the rosy-purple petals give them a distinctive character in the border, although the color at best is difficult to combine with other flowers.

Culture. They will tolerate dry, sun-baked locations but are better in good soil.

Propagation. The easiest method of increasing these plants is to divide the clumps.

Echinops—Globe Thistle

The Globe Thistle is very interesting if one likes thorny, prickly plants. The leaves are large, deeply cut and very prickly. The stems are silver-white, while the flowers are either white or a grayish metallic-blue. The flower heads are round like a ball and are entirely covered with needle-like thistles All of the species bloom from June or July through September. *Echinops Ritro* has deep steel blue flowers and grows about 3 feet high. *E. sphærocephalus* is the tallest growing species, attaining a height of from 5 feet to 7 feet with large, white flowers.

Uses. All the Globe Thistles are distinctive plants and are well adapted to plant in borders, among shrubbery or to use as bold specimen plants. The flower heads, which are excellent for cutting, can be dried and will remain attractive for months. They are also suitable for naturalizing in wild gardens.

Culture. They are of easiest culture, growing best in a light soil.

Propagation. They are propagated by seeds and division.

Upper left, **Leopard's Bane or Doronicum, a glorious, Daisy-like flower of April; *upper right,* Globe Thistle or Echinops, unique and "something different" for the border; *lower left,* Gaillardia or Blanket Flower, bright and showy flowers in keeping with the Fall season; *lower right,* Purple Cone Flower or Echinacea, with its high, quill-like center.**

Edelweiss

Everyone knows of the fame of the small Edelweiss of the Alps and every tourist who travels through Switzerland learns the mysterious story of how they grow under overhanging cliffs which means the risk of life when one wishes to get them. But ideal plants can be grown in our own gardens just as easily as any other plant. They are one of the hardiest of plants and withstand severe Winters. The plant is low, growing from 4 inches to 12 inches high, and is densely covered with a whitish wool. The leaves are silvery-gray and lie almost flat on the ground. From the center grows a flower stem which has three or four star-like flowers. The true flowers themselves are small and inconspicuous, but they are surrounded by this star-like cluster of wooly leaves. This Edelweiss is called *Leontopodium* (*Gnaphalium*) *alpinum*, a sort 6 inches tall, bearing three or four flowers. *L. sibiricum* has flowers twice the size of the Alpine Edelweiss but without the sentimental associations.

Uses. This is an ideal plant for the rockery.

Culture. If these plants are placed where they will be exposed fully to the sun, they will be a greenish gray, but they will be a creamy white if planted in partial shade. Any good sandy garden soil will do in which some limestone has been mixed. If the plant is placed between two rather closely fitting rocks with plenty of sandy soil beneath, it will succeed nearly as well as it does in the Alps.

Propagation. They are propagated by seeds sown indoors in early Spring to be placed in the open border about the first of May; or by division of the roots in the Fall.

Epimedium—Bishop's Hat, Barrenwort

After reading the description of the Epimedium by Miss M. R. Case in "Horticulture," we have decided to abandon all hopes of describing this dainty flower in our own crude words. She writes:

"Blossoming under a great Oak, where Maidenhair and Dicksonia ferns grow to perfection, is a dainty herb from Japan known as the Bishop's Hat, from the square, flat shape of its blossoms.

"The blossoms are in loose sprays which branch off from the main stems 2 inches below where the main stem divides into the three sprays which bear the leaves. They come in buff or soft yellow, mauve and white. The one which has done the best at Hillcrest, *Epimedium macranthum*, gives the bishop a yellow lining to his dark red hat. It is well arranged

for his grace's comfort, as under the square, flat hat is a little cap to hold it well in place. It is so pretty a hat that we hope it is in the ritual of the floral world for it to be worn in the ceremonies of their service.

"The loose spray of blossoms is 6 inches long from where it branches from the main stem. The whole plant is more than a foot in height; the single flower about the size of a dime. The pretty red buds are on the spray with the flowers.

"The leaves are a soft yellow green, parallel veined and pointed at the apex. The main stem divides into three sprays for the leaves. The whole plant has an airy, unusual and very pleasing effect. The old leaves persist on the stems through the Winter and have to be gathered with the Spring litter from the gardens.

"It should not be confused with the Bishop's Cap, Mitrewort or Mitella, which more nearly resembles the Tiarella or Foam Flower. His Grace, the Bishop, is well adorned in Puritan New England."

Some of the species are *E. alpinum*, with gray, crimson and yellow flowers; *E. macranthum*, with lilac flowers; *E. niveum*, with white flowers, and *E. Musschianum*, with golden yellow blossoms.

Uses. There is probably no other flower which lasts so long in water as do the Bishop's Hats. If they are picked close to the ground when the leaves are mature, they will last at least two months in water. They are good for pot plants and for the border where they should really be planted in masses in order that their delicate flowers may be appreciated. They are excellent plants for the rockery.

Culture. They prefer a moist, sandy loam and partial shade. If planted in the rockery, they must not get too dry. The soil should not be disturbed around them at any time, as it injures the roots.

Propagation. They are propagated by dividing the roots. This can be done in either Fall or Spring.

Erigeron—Fleabane

The Erigeron has Aster-like flowers which are in bloom during the Summer months. The different species vary in height from 5 inches to 3 feet. The flowers grow from small tufts of leaves, somewhat like the English Daisy (*Bellis*) and the blooms of the taller varieties measure 2 inches and 2½ inches across. The colors are violet-blue, bright purple, apricot, rose and rosy lavender and these colored petals surround a golden yellow center.

Erigeron speciosus is the commonest cultivated sort. It has bright purple flowers, grows 2 feet tall, and blooms all Summer. *E. glabellus* is a dwarf sort growing from 6 inches to 12 inches tall and with

large, light purple flowers. *E. aurantiacus* is possibly the showiest one with deep orange flowers and is known as the Double Orange Daisy. All of the Erigerons spread to form dense bushes of growth and the flowers are in groups of from three to five to a stem or head.

Uses. The Erigerons are fine to use for cut flowers and are used in the hardy border. The smaller kinds are excellent for rockwork and the front of borders.

Culture. When planted so that they get some shade during the middle of the day, they will continue to bloom for a longer season.

Propagation. The simple method of propagating the Erigerons is to divide the clumps in Spring. Even early Spring-sown seed results in good bloom the first season.

Eryngium—Sea Holly, Ivory Thistle

This is a prickly plant in every feature—the leaves are prickly, the flower heads are surrounded by spreading, prickly floral bracts and the flower head itself is like a small Teazle. The beauty of this plant depends upon the blue-gray effect which it presents. They grow to a height of 3 feet and bloom from June to September.

Eryngium amethystinum has amethyst-colored flowers and grows at least 2 feet tall. *E. planum* has numerous small flower heads and shining stems. *E. maritimum* has whitish or pale blue flowers and grows 1 foot tall. *E. Olivierianum* grows 3 feet tall and has large flower heads of deep blue flowers.

Uses. The Eryngium is most effective when massed on the lawn, and its uses as a cut flower are many. It is very decorative for basket work, or combined in vases with Gladioli. The branches can be dried, so that the flowers are used in Winter bouquets. The plants are used in wild gardens or grouped with the shrubbery.

Culture. Eryngiums thrive best in full sun, in light, sandy loam. They withstand dry seasons well and when once established should not be moved often.

Propagation. They are raised from seeds, but some have found that certain of the sorts are rather capricious although the plants frequently self-sow their seeds and spread rapidly. Sow the seed as soon as ripe, in which case they germinate the next Spring. The plants are divided with difficulty.

Eupatorium—White Snakeroot, Thoroughwort, Hemp Agrimony, Mist-Flower, Joe-Pye Weed

How often we are tempted to praise the beauties of some foreign flower while our excellent native ones pass by with little attention. There are many sorts of Eupatoriums and most of them can be found growing wild in our own country. The hardy Ageratum or Mist Flower (*Eupatorium* or *Conoclinium cœlestinum*) has myriads of small, fluffy, azure-blue flowers which are in bloom during August and September. The plant reaches a height of 2 feet. The White Snakeroot (*E. urticæfolium* or *ageratoides*) has pure white flowers and grows from 4 feet to 5 feet tall, while the Boneset or Thoroughwort (*E. perfoliatum*), which also has white flowers, only grows 2 feet or 3 feet tall. The leaves of this sort are in pairs, united at the base about the stem. The Joe-Pye Weed (*E. purpureum*) is very tall, growing from 4 feet to 10 feet and has large, purple, showy heads of flowers. The leaves are in whorls. Most of them bloom in late Summer or early Autumn with an average height of 3 feet to 5 feet.

Uses. The Joe-Pye Weed is found in wet meadows or along streams and will naturalize easily along woodland streams, or moist places in parks. The Mist-Flower and the White Snakeroot are excellent for cutting purposes. All Eupatoriums are good in borders with the taller ones in the background, or to naturalize in woodlands. Some of them are excellent to use with shrubs.

Culture. They are of easiest culture, growing in almost any soil, although a rather light, well drained soil and a sunny position will produce large plants with numerous blooms. The Joe-Pye Weed, however, requires a moist situation.

These plants increase in profusion of flowers and size of trusses when transplanted from the wild.

Propagation. They are propagated from seeds or by division of the clumps.

Hardy Ferns—Shield Fern, Hay-scented or Gossamer Fern, Lady and Male Ferns, Royal Fern, Maidenhair Fern, Cinnamon Fern, Walking Fern, Climbing Fern

Almost everybody has a spot in the garden around the home which is so shady that very few plants will grow there and consequently these spots are bare eyesores. Have you ever taken a walk through

A shaded nook of ferns and Plantain Lilies

dense, cool green woods and admired the wealth of ferns growing there so luxuriantly, and wished that you could have them around your own home to lend their quiet and cool atmosphere? Most of these ferns can be grown easily if one is willing to give a little attention to their care.

The Maidenhair Fern (*Adiantum pedatum*) is perhaps one of the most delicate of these hardy ferns. It grows from 12 inches to 18 inches high and has long, curved fronds borne on long, slender, black stems. When this fern is once well established, it increases very rapidly.

The Royal or Flowering Fern (*Osmunda regalis*) is very stately, growing from 2 feet to 3 feet high. The fronds are large and pale green in color.

The Cinnamon Fern (*Osmunda cinnamomea*) often grows 5 feet high. When its fronds unfold they are covered with a rusty wool, but as they develop they become perfectly smooth.

The Hay-scented or Gossamer Fern (*Dicksonia punctilobula*) grows in masses 18 inches high. It spreads very rapidly. The fronds are large and much divided.

The Lady Fern (*Asplenium Filix-fœmina*) and the Male Fern (*Lastrea Filix-mas*) are two of the best ones for general gardening.

The Lady Fern grows from 2 feet to 3 feet tall and has finely cut foliage, while the Male Fern is an evergreen sort growing about 18 inches high.

The Walking Fern (*Camptosorus rhizophyllus*) is a low creeping fern. It grows in little tufts with evergreen fronds which take root when they touch the ground, forming other small plants.

The Climbing or Hartford Fern (*Lygodium palmatum*) is another small, dainty fern. Its slender stalk will grow from 1 foot to 4 feet high, with small, palmately cut leaves.

The Christmas Fern, *Asplenium acrostichoides*, is an evergreen sort and is more showy in Winter than in Summer. It is especially at home in rocky places, prefering moisture and shade.

The Aspidiums, especially *A. marginale* and *A. spinulosa*, are attractive ferns for moist places.

A very common fern, the Common Polypody, *Polypodium vulgare*, although not individually beautiful, is seen to advantage upon the ledges of gorges where it forms dense mats of foliage.

There are a great many different species of ferns and if they are carefully studied, almost any corner in any garden can be supplied with a touch of fern.

Uses. Since most of these ferns require a shady and moist situation, they can be massed along shady, woodland paths, at the edges of ponds or along the sides of streams. Many are good for planting on the north side of houses and as edges for borders. The small ones are almost invaluable for the rock garden or near small artificial waterfalls. In the ordinary garden very pretty effects are gained by planting the early flowering bulbous plants among them, because the fronds of the ferns begin to unfurl very early in Spring. Collections of hardy ferns are extremely interesting. Many of the sorts are good for cutting during the Summer.

Culture. Very few of these ferns will grow in sunny situations. Try to imitate nature when planting them in your gardens. Shady or semi-shady places are best, planted underneath trees and around tall shrubbery, where the plants will be more or less protected from the sun and hot, dry winds. Good drainage is absolutely necessary and it is advisable to raise the fern bed 3 inches or 4 inches in order to insure this. Plenty of water should be supplied during the dry Summer months. In preparing the soil, dig as deeply as the roots of the trees will allow. If the soil is clayey or poor, use plenty of decayed leaves, peat, manure and other loose materials. The soil should be very fine, light and porous. When planting the small ferns in the rockery almost

pure leafmold can be used. None of the ferns should be set deeply in the soil, most of them requiring about an inch of soil covering. Those which grow from crowns should be set on the soil so that the crown is not covered. Ample room should be left between the plants because they spread so readily. The Royal or Flowering Fern can be grown in 2 or 3 inches of still water or in very moist places. The Cinnamon Fern is usually found in mucky soils. The Gossamer Fern is one of the best to grow along walks for it will grow in either sun or shade.

Ferns should be reset in the Spring or during the Summer through August. This will give plenty of time for a new set of fronds to come while the roots are getting established. If they are planted in the Fall they require a good mulching of leaves. The fronds should be cut back when the plants are moved.

PROPAGATION. The Ferns are propagated by dividing the root stalks, which are the underground stems from which the upright stems grow.

Funkia—Day Lily, Plantain Lily, Corfu Lily

Two sorts of flowers have been called Day Lilies—Funkia (or Hosta, as it is sometimes called) and Hemerocallis. Both are old favorites in the garden. The flowers of the latter group are orange and yellow (see Hemerocallis, page 106). Most of the Funkias are grown for their excellent foliage which is produced in clumps. The one most commonly grown in our gardens is the Corfu Lily (*F. grandiflora* or *subcordata*). Its leaves are a glossy light green color with spikes of pure white Lily-like flowers It grows about 2 feet high and spreads in a circle about 3 feet across The flowers are very fragrant, appearing during August and September. The Common Day Lily (*F. cærulea*) grows 1½ feet high, blooms during July, and has mauve or blue drooping flowers. *F. Sieboldiana* is one of the strongest growers in this group. It is 2½ feet tall, has white flowers tinged with lilac produced in July and has very large, grayish-green leaves. There are some of these Plantain Lilies with variegated foliage, bright green margined in white, of which *F. undulata variegata* is one of the best. They keep on growing, improving every year as the clumps increase in size.

USES. Funkias are perhaps most useful in the various kinds of borders. The dwarfer variegated kinds are used for edging purposes. They can be used as specimen plants in the lawn, planted near lakes or streams, or grouped around shrubbery Both the foliage and flowers are distinct, beautiful and attractive wherever planted. Some of them are used in rock gardens. They are excellent plants for the strip of

soil near the house in the shade which is common about most of our homes.

Culture. Before planting the Day Lilies, the ground should be prepared to a good depth and enriched with manure. They grow best in moderately rich soil where a good supply of moisture is available. They will grow either in sunlight or shade, but they grow best in partial shade, even in the northern exposures, where very few other plants will grow.

Propagation. The division of the root clumps is the easiest method of propagating the Day Lilies. Some produce seeds which grow readily if planted soon after the seeds ripen.

Gaillardia—Blanket Flower

The satisfactory Blanket Flowers deserve a place in all gardens. They are showy, bloom under adverse conditions and are easy of culture. The great improvement in colors which has gone on in recent years is marvelous. There are both annual and perennial species, both of which have become so varied in their form and colors that the best test of a perennial sort is to wait until Spring. If it lives through the Winter and blooms the next year, it is perennial The perennial sorts are catalogued as *Gaillardia aristata* (*grandiflora*). The flowers are often clear rich yellow or clear wine red, but usually the petals are broadly margined with yellow and the remainder of the flower is some shade of crimson. The centers of the flowers are frequently a deep maroon.

Uses. Gaillardias are especially good for the perennial border where they start to flower in June and continue after many other flowers are killed by the frost. They are also prized as cut flowers and for this purpose should be cut when the flowers are slightly cup-shaped before the petals have reflexed. Without apparent harm the flowers may be kept out of water in carrying them from one place to another.

Culture. All persons who have grown Gaillardias know that they bloom even during protracted droughts. They prefer the full sun and a sandy soil. Old plants have a tendency to become "blind," that is, they grow nicely but produce no flowers. Such clumps should be dug and divided.

Propagation. When raised from seed they do not bloom unless started very early. They are easily raised, however, the seed germinating in five to eight days.

Gentiana—Gentian

TO THE FRINGED GENTIAN

Thou blossom bright with Autumn dew,
And colored with the Heaven's own blue,
That openest, when quiet light
Succeeds the keen and frosty night.

Thou waitest late, and com'st alone,
When woods are bare and birds are flown,
And frosts and shortening days portend
The aged year is near his end.

Then doth thy sweet and quiet eye
Look through its fringes to the sky,
Blue—blue—as if the sky let fall
A flower from its cerulean wall.

—Wm. Cullen Bryant

There are almost as many Gentians in poems and books about flowers as there are real Gentians in the woods. Two sorts are to be found by much hunting through United States. They are the Closed Gentian (*Gentiana Andrewsii*) and the Fringed Gentian (*G. crinita*). The Closed Gentian is of interest because it blooms from September to November, but the flowers never open, remaining in large, bud-like form. The flower stems are 1½ feet tall and the purplish blue flowers are borne in clusters in the axils of the upper leaves. The plants are found growing on damp hillsides and in meadows.

The Fringed Gentian is more beautiful and less common. It is the most modest flower of our woods

Closed or Bottle Gentian, one of our choice wild flowers.

and hides itself away in the open places. The flowers are bluish and have a delicate fringe at the margins of the petals. Unlike the Closed Gentian, they are borne singly upon the apex of the stems.

The Gentianella (*G. acaulis*) is the blue, stemless Gentian of the Alps. The flowers are bell-shaped, large and blue. The plants grow but 6 inches tall and bloom in Spring. In Europe this plant is commonly used as an edging plant.

Culture. The Gentians are difficult to transplant and if seed is sown, it should be fresh, otherwise it will not grow. The Closed Gentiana may be grown in moist meadows but they should have no lime in the soil. The Fringed Gentiana is a biennial which is extremely difficult to grow. If fresh seed is obtained, sow in pots. The Gentianella is the easiest sort to grow, requiring limestone added to the soil. All sorts prefer partial shade.

Geranium—Crane's-bill, Herb Robert

The plants, usually called Geraniums, are really Pelargoniums and do not come within the scope of this book. The true Geraniums are hardy perennials growing 12 inches to 18 inches tall. They range in color from lilac to rosy-purple. The most commonly cultivated species, *Geranium sanguineum*, has purple-crimson flowers producing a profusion of flowers through the Summer. A white variety is frequently listed. Two wild sorts are worthy of places in the wild garden or moist rockery, namely: *G. Robertianum*, the Herb Robert, which has tiny magenta flowers and deeply cleft leaves. The plants are encountered frequently in very moist, rocky woods. They are easily distinguished by their peculiar odor. This is a biennial sort but will self-sow itself year after year. *G. maculatum*, the Spotted Crane's-bill, is far the commoner wild sort. The flowers vary from light to dark magenta. Both of these species are very hairy.

Uses. The smaller plants are excellent for pot culture or to use as edgings for borders. Many are grown in rockeries, in which situations Herb Robert and the spotted Crane's-bill are especially attractive. Sometimes the flowers are cut and used in small basket or vase decorations.

Culture. Geraniums do nicely in moist places. The wild sorts will not stand the hot sun. Any good garden soil will do. They thrive best transplanted in the Spring.

Propagation. They are propagated by sowing the seed during the latter part of Summer, and are usually wintered in coldframes.

Geum—Avens

Among our pernicious weeds is one whose seeds are provided with hooks which catch in our clothing when on a Summer walk through the woods. This is a Geum. It is a surprise, therefore, to find several excellent perennial flowers as its relatives. The common species, *Geum coccineum*, or *chiloense* as it is more properly called, grows from 12 inches to 18 inches high with hairy leaves, somewhat resembling those of a Strawberry. The flowers are both double and single and are borne on branched stems in great profusion. The variety, Mrs. W. J. Bradshaw, is the best one to grow. It has very large flowers from 1½ inches to 3 inches across with large, wavy petals of a bright crimson color. The Geums bloom freely from May through October. *G. montanum* (*Heldreichii*) produces orange flowers through the Summer and grows 12 inches tall.

Uses. The Geum is a most excellent flower to use for bouquets. It wilts readily and when the flowers are cut they should be put in warm water. They are also good for borders and rockeries.

Culture. Geums will grow in full sunlight or partial shade in any garden soil and thrive very well among rocks.

Propagation. They are produced from seeds and cuttings.

Grasses, Ornamental

This unique group of plants is not nearly so well known nor are the many excellent sorts as often seen as their merits deserve. Only such grasses are here discussed as are hardy, easily grown and will produce striking effects when properly used. Bamboos and Grasses are splendid for tropical effects and particularly to be admired for large beds, for the edging of ponds and streams or for combination in the perennial border. Plant all sorts in a rich, moist loam in a place protected from strong winds.

Propagation. The varieties of grasses with variegated leaves are usually propagated by division rather than seed because, in most cases, the variegations are not propagated true. Propagation by division is easily done in early Spring. Merely cut the clumps into pieces 3 inches or 4 inches across. Such divisions when planted a foot apart will, at the end of the season, increase the apparent size of the clump.

Many of the grasses, however, are propagated from seed sown in the early Spring. Ornamental grass in its young stages of growth

appears to be so small that one has a feeling that it need not be given a great deal of space. Crowded grasses do not thrive, so that they should be transplanted when small and given plenty of space to develop.

Arrhenatherum bulbosum variegatum

A dwarf, decorative grass of tufted habit growing only 8 inches high. The green and white leaves retain their clear color throughout the season. It is used where a white edging or border is desired.

Arundo Donax—Giant Reed

This is the tallest of the ornamental grasses, sometimes growing in rich, deep soil to a height of 20 feet. The long, drooping leaves of a bright green color are produced from the base to the top of the stem, somewhat resembling a corn plant, though more graceful. Late in Summer the plant produces showy reddish brown plumes over a foot long, which turn a silvery gray at maturity. The Giant Reed is useful for the centers of large beds, in the backgrounds of borders or as specimens in the lawn. It refuses to be at home in stiff, clayey soil, preferring a deep, sandy loam and a sheltered position. Variegated forms are obtainable; they have leaves striped with white. This latter sort seldom grows over 12 feet tall and is not entirely hardy without protection in the colder climates.

Giant Reed or Arundo, one of the tallest grasses.

Bamboos

The Bamboos form a group of interesting grasses, interesting because of their association with many uses to which they are put by the Japanese. Few of our outdoor Bamboos, however, grow so that we can actually use them for fishpoles. They are usually more bushy. Three principal genera of grasses are known as Bamboos, namely: *Bambusa*, *Arundinaria* and *Phyllostachys*. Generally speaking it is wise to protect all of the sorts listed as Bamboos.

The choicest and hardiest sorts include the following:

Arundinaria auricoma. This grass is an excellent purple-stemmed variety, having green and yellow variegated foliage. It is rather dwarf, growing only 3 feet tall.

Arundinaria Fortunei. This is the smallest of the common hardy Bamboos, growing only 18 inches tall and having evergreen foliage, variegated green and white. Although it lacks the grace of the taller varieties, it is often used for edging or in rockeries.

Arundinaria japonica (B. Metake). Arrow Bamboo. This handsome variety from Japan forms dense masses 8 feet to 10 feet high. The leaves remain on the plant in good condition well into Midwinter. This sort is reliable and thrives under trying conditions.

Arundinaria Simonii. This sort is distinct and of vigorous growth, the branches being grouped in dense clusters. The narrow, green leaves are occasionally striped with white. It grows 20 feet tall in China although 15 feet is considered to be a good growth in this country.

Bambusa palmata. This is an effective, broad-leaved species forming dense clumps 4 feet high. The bright green leaves are often 15 inches long and 3 inches wide.

Phyllostachys aurea. Golden Bamboo. This graceful Chinese sort has close jointed canes which are light green when young, but change to a straw yellow when mature. The plants grow 15 feet tall and are covered with small branches which bear soft green foliage.

Elymus—Blue Lime Grass

Elymus glaucus is an excellent grass of spreading habit, with narrow, bluish-green leaves. It makes an earlier start in Spring than most grasses and grows 3 feet high.

Erianthus—Plume Grass, Hardy Pampas Grass

In habit *Erianthus Ravennæ* resembles the Pampas Grass, but it is not as ornamental because the plumes are not as showy. It grows 5 feet to 10 feet tall. In a sunny location, in well-drained soil, this grass is attractive as a specimen or for use among shrubs.

Eulalia or Miscanthus—Japanese Rush

The plain green and variegated sorts of Eulalia are of great value in the garden. They grow 5 feet to 7 feet tall. *Eulalia japonica* has deep green leaves 2 feet to 3 feet long and over an inch wide. *E. gracillima* has long, drooping leaves, narrower than the former sort and with a stripe of white through the center. *E. japonica zebrina*, the Zebra grass, has leaves which are variegated, being marked crosswise with broad, yellowish white bands.

Festuca—Blue Fescue

This little tufted grass, *Festuca glauca*, has silvery-blue foliage and grows only 10 inches tall. The plants are evergreen, but it is advisable to cut the old leaves from the plants early in the Spring before the new crop is produced. It is especially recommended for edging in the perennial border and in the rock garden.

Gynerium or Cortaderia—Pampas Grass

"What is there growing in the garden or wild more nobly distinct and beautiful than the great silvery plumes of this plant waving in the autumnal gusts—the burial plumes as it were, of our Summer too early dead," writes Robinson in "Subtropical Gardening." Unfortunately, the plants are rather tender and require mulching in Winter, or they may be taken up and wintered in a cool cellar. The plumes are the handsomest, most graceful of all grasses and the needed care is worth the trouble.

Pennisetum—Fountain Grass

Most of the Fountain Grasses are annuals, but *Pennisetum japonicum* is a perennial, grows 3 feet to 4 feet tall, and has fox tail-like plumes of rich mahogany tipped with white.

Phalaris—Ribbon Grass, Gardener's Garter

This grass is a favorite of old gardens where it spreads widely. The leaves of *Phalaris arundinacea picta* are attractively striped with pure white. It is useful as a border for the taller perennial grasses because it grows 2 feet tall. It thrives especially well in wet soil and may be used on the margins of ponds. In soil too rich it loses its vareigation.

Uniola—Spike Grass

The Spike Grass, *Uniola latifolia*, has arching leaves an inch wide, and broad, flat spikelets produced in loose drooping clusters. It grows 3 feet tall.

Gypsophila—Baby's Breath, Chalk Plant, Gauze Flower, Fairies' Breath

The Gypsophila is one of the daintiest of the old-fashioned flowers with a misty grace which is not found in other flowers. The flowers themselves are tiny, white or blush-white and the plants are covered with myriads of these blossoms all during the Summer. The plant grows from 2 feet to 3 feet tall; the foliage is grass-like, the stems are branched minutely and are wiry, and the general appearance is filmy, gauzy, or misty white. *Gypsophila paniculata* has single flowers, while *G. p. flore-pleno* has larger, double, rosette-like flowers and is more satisfactory. *G. acutifolia* is frequently cultivated, differing from *G. paniculata* in its greener and narrower leaves. *G. cerastoides* and *G. repens monstrosa* are trailing species blooming in June and July; the former has pinkish tinged flowers.

Uses. The Baby's Breath is an excellent cut flower, especially when combined in bouquets or decorations with other flowers which do not have much foliage. The flowers, especially of the double form, can be cut and dried and used during the Winter months. The plants themselves are useful in the hardy border, or as pot plants. The trailing form is useful for edging and for rock gardens.

Culture. Gypsophilas endure open, dry places and rather poor soil. The name Gypsophila (Gypsum-loving) seems to indicate its preference for limestone soils. Some gardeners claim that cutting the plants back after blooming is detrimental to them.

Propagation. They may be propagated from seeds or cuttings taken either in the Fall or Spring. The double sorts should be grafted on the roots of the single flowering ones, as about 30 per cent of the seedlings come double from seed. The plants are divided most frequently.

Heather—Heath

The American finds it almost unholy to write of Heather because his remarks may be read by a Scotchman who might wonder by what right an American obtained permission to discuss these bonny plants. There are a number of sorts of Heathers which may be grown in northern United States, but many of the European sorts are not hardy enough. Lovers of Heather might easily grow it, if they but knew the sorts to grow. The following sorts are seen thriving in our country:

Calluna vulgaris, the true Scotch Heather, has tiny purple flowers and grows 12 inches to 18 inches tall. It blooms late in August and remains in bloom until Fall. There is also a white variety. *C. crispa* is an excellent sort with pinkish lavender flowers.

Erica carnea has pink flowers and is one of the most popular sorts in America. The plants grow 6 inches tall and bloom in April or May.

Erica stricta, the Corsican Heath, seldom attains a height of 2 feet and has stiff, upright branches. The flowers are rosy purple appearing in August.

Menziesia polifolia, the Irish Heath, has small, oval, dark green leaves and long spikes of large, drooping, white or bright rose bells. It blooms from July to September. The plants attain a height of 6 inches.

Bruckenthalia spiculifolia is found listed in some catalogs. It grows 5 inches to 8 inches tall, has heath-like, light pink flowers produced in early June.

Uses. Besides their sentiment and interest, the Heaths are extremely dainty for use in the border or rock garden. They are especially at home as an undergrowth for Rhododendron beds. They may be cut, and when placed in vases, will last for weeks.

Culture. The various Heaths prefer a soil compounded of peat or leafmold. They prefer plenty of moisture in Summer but the soil must be perfectly drained. Our weather conditions are not ideal, due to our hot, dry Summers, but Mr. Wm. Anderson (Lancaster, Mass.) writing in *The Gardener's Chronicle of America*, says:

"A situation should be selected where protection is afforded from sweeping winds in February and March. We have some Heather planted on a hillside in the full sun, and exposed to sweeping northwest winds. The tops were killed back some last Winter, but started up again in early Spring and was in full bloom September 6. These plants have been growing in their present location for four years. For the first two years the ground was kept cultivated between the plants, but the growth became so thick that this was discontinued, and since then, thousands of seedlings are beginning to appear under and between the older plants. In another spot a planting was put in two years later, and in a more sheltered location, and has come through the last two severe Winters in good condition."

PROPAGATION. The propagation of the Heathers is rather difficult for the amateur. It is best to purchase plants from the dealer.

Helenium—Sneezeweed, Helen's Flower

The Heleniums are tall growing autumnal plants which are closely related to the Sunflower. The blooming period is from June to the end of September and during this time the plants are covered with flowers

Helen's Flower or Helenium. The rich maroon varieties are superb for late Summer or Fall garden effects.

of mahogany-crimson, coppery-bronze, lemon-yellow, and light and deep rich yellows. The flowers are flat and are borne in large heads or clusters. They grow from 1 foot to 6 feet high.

Helenium autumnale, Riverton Gem, grows from 2½ feet to 3 feet high and has flowers of an old gold color, which changes to a blood-red wallflower color when mature. Riverton Beauty grows from 5 feet to 6 feet tall. Its flowers are a rich lemon yellow with a purplish-black cone center. Rubrum bears large, loose heads of terra cotta or mahogany-crimson flowers which do not change as the blooms mature. Superbum has deep, golden yellow flowers while Striatum has yellow flowers striped with crimson. All the above varieties bloom from August through September.

H. Hoopesii, a clear, rich yellow sort with slightly drooping rays, blooms early in June and grows only 2 feet tall.

Following the last named species in season of bloom is *H. pumilum*, another yellow sort, usually growing about 18 inches tall and bearing a profusion of flowers through the Summer months.

Uses. Heleniums are a very useful as well as popular group of plants for the garden, for their masses of golden-hued colors blend with the autumnal colors and produce effects which are hard to achieve in any other group. Because of their tall growth, Heleniums are used to form the body and main background of large borders and are very attractive when planted among shrubbery. The flowers are very useful for cutting and the blooms remain fresh for a long time when placed in water. The bushes are always covered with large quantities of bloom which remain on the plant in good condition for some time. The cut flowers are useful for interior decoration.

Culture. Heleniums are vigorous growing plants which thrive in any soil and even under adverse conditions. They should be transplanted frequently because they spread rapidly.

Propagation. These plants are propagated by seeds sown in July, by division of the roots either in early Spring or Fall, and by cuttings taken in Spring.

Helianthus—Perennial Sunflower

These bold perennials are so diverse in their habits that it is hoped that the reader will not come to them with prejudice because some of its relatives are coarse and grasping in nature. Some of the

sorts are actually dainty. All the sorts are tones of golden yellow and they are usually tall growers. Of the many sorts we shall mention a few of the best.

Helianthus Maximilianii is perhaps the tallest one, growing 8 feet and sometimes more if the conditions are favorable. It is the last one to bloom, flowering as it does in October. Its long stalks are full of small golden yellow flowers.

H. orgyalis is sometimes called the Graceful Sunflower because of its narrow foliage which droops. It has single, lemon-yellow flowers and is another very tall grower.

Maximilian's Sunflower, one of the choicest late flowers of Fall.

H. mollis, or the Hairy Sunflower, grows 4 feet tall and has grayish, downy, green leaves, dark stems and pale yellow flowers with dark centers. *H. scaberrimus* (Woolly Dod) blooms in September and has deep yellow flowers with maroon centers. *H. decapetalus* or *H. multiflorus* is one of the most profuse bloomers and, when planted where it may be given a lot of room to spread, is one of the good species, but its powers of usurping garden space eliminates it from the more refined borders. The Autumn Glory (*H. angustifolius*) has created some comment during the last year. The writer has not seen it, but has heard that it is one of the most graceful small-flowered sorts, that it makes a splendid addition to the small number of plants which bloom after frost.

Uses. These are splendid to plant in the back rows of the border, in clumps on the lawn among shrubbery, or to naturalize in the wild flower gardens or along woodland paths. They combine attractively with hardy Asters. The flowers are cut and used for all kinds of decorative purposes.

Culture. Because they grow so tall, they should be planted in places where the soil is not only rich, for they are great feeders, but also very deep. The soil should be manured well every season, because the roots exhaust the soil of food materials very readily. They prefer open, sunny places to partially shady ones, although they like a moist soil. The plants require almost yearly transplantings.

Propagation Helianthus is readily propagated from cuttings or division of the root stocks.

Heliopsis—Orange Sunflower

The Heliopsis is not grown to a great extent because so many more attractive flowers are to be found among the varieties of Helianthus. This Orange Sunflower is very similar, growing from 2 feet to 3 feet high, with flowers varying in colors from orange to a deep golden yellow. The flowers are either single, like a Daisy, or double, like a Zinnia, and measure 2½ inches or 3 inches across. *Heliopsis Pitcheriana* which grows 2 feet to 3 feet is a good variety to grow. It has single flowers of a very thick texture and of a deep golden yellow color. It begins blooming in June and lasts through September and early October. Excelsa is an intense golden sort which does not turn brown in the center.

Uses. The Orange Sunflowers have long, stiff stems which make them valuable for cutting. The blooms last a long time, both on the plant or in water. The plants themselves are suited for borders or dry spots.

Culture. They are of easy culture, preferring open, sunny situations.

Propagation. They are propagated by seeds, cuttings and division of the root stocks.

Hemerocallis—Day Lily

During the early Summer months the roadsides, railroad tracks and banks of streams are brightened immensely when the Orange Day Lilies come into bloom. They grow so freely and in so many out of the way places that many people have come to consider them as native plants, but they are wild in Japan and China. This Orange Day Lily

Left, **Lemon Lily, with charming fragrance and grace; *right*, Kansas Gay Feather or Liatris, an unusual flower of Summer.**

(*Hemerocallis fulva*) has a gaudy orange yellow color. The plants grow from 3 feet to 5 feet high, have narrow, drooping, grass-like leaves which are very graceful, and the trumpet-shaped flowers are produced on spikes of from six to twelve blooms. Each flower lasts only a very short time, but new ones bloom every day. The blooming period extends from early June through July for all the varieties. The Lemon Day Lily (*H. flava*) has clear lemon or canary-yellow colored flowers and is the better one of the two to grow in the gardens. It is only 2 feet or 3 feet high and is delightfully fragrant. *H. Middendorffii* is a dwarf sort with rich, golden yellow flowers. *H. Dumortieri* begins blooming in May and has very showy flowers of a bronze yellow on the outside and a rich yellow inside of the petals. There are many new hybrids of the Day Lilies, many of which are superior in color and produce more blooms to the spike. *H. Florhami* has deep, golden yellow blooms with Indian-yellow markings. The petals are beautifully frilled. *H. citrina* has pale lemon-yellow flowers and is a tall grower. *H. Kwanso* is a double form of the Orange Day Lily. *H. Thunbergii*, a species from Japan, may be described as a late-blooming Lemon Lily.

Uses. Since they grow and bloom so freely, their uses are many. About the most attractive way of growing them is to let them naturalize themselves along woodland paths, along streams or moist banks. They are excellent for the border or to plant among shrubbery. The flowers are used for cutting purposes.

Culture. The Day Lilies are easy to grow, thriving equally well in full sunlight as in partial shade. In fact they can be planted anywhere and they will take care of themselves. It is best to divide the clumps every two years, although they are often left for four or five years. They do not need any protection during the Winter.

Propagation. They are easily propagated by division of the root stocks.

Herbs

The home gardener can derive a genuine pleasure in growing herbs when they supply so many of one's wants. This is especially true of a housewife who has her own kitchen garden.

Culinary Herbs

Borage (*Borago officinalis*). The large leaves have a fragrant odor and add greatly when served with Lettuce in salads. The leaves are sometimes boiled like Spinach. The flowers are used in cool drinks and they also attract the bees.

Burnet (*Sanguisorba canadensis*). The leaves are used in cool drinks and in flavoring soups and salads.

Dill (*Anethum graveolens*). The seeds have a pungent odor. Used for flavoring vinegar to make "dill pickles."

Fennel, Florence (*Fœniculum dulce*). The leaf-stalks at the base of the stem are very large. These are fine in salads, the sweet flavor somewhat resembling that of Celery.

Fennel, Sweet (*Fœniculum vulgare*). The leaves are beautiful for garnishes; are also boiled in fish sauces.

Lavender (*Lavandula vera*). The leaves and flowers have a delightful perfume and a small bag of the dried flowers gives the linen a delicate perfume. Oils are also made from the true lavender.

Marjoram, Sweet (*Origanum Majorana*) The leaves and shoots are used for seasoning and are also dried for Winter use.

Mint (*Mentha piperita*). The leaves and stems are used for flavoring and for the distillation of essence of peppermint.

Sage, Common (*Salvia officinalis*). The leaves and tops are used commonly in the seasoning of the stuffing for fowls and for dressings.

Tarragon, Tree (*Artemisia Dracunculus*). The leaves, either fresh or dried, are used for flavoring soups, pickles and vinegar. The finely chopped fresh leaves add greatly to salads.

Thyme (*Thymus vulgaris*). The leaves are used either fresh or dried for flavorings. This is also a good edging plant for the garden.

Medicinal Herbs

Boneset (*Eupatorium perfoliatum*). Tea made from the Boneset leaves is used for fever.

Catnip (*Nepeta Cataria*). It is a well established fact that cats delight in rolling among the leaves. The Catnip is said to be a good bee pasture.

Feverfew (*Chrysanthemum Parthenium*). This makes a good blood tonic.

Horehound (*Marrubium vulgare*). The leaves are used as a remedy for colds, for dyspepsia, and also for their tonic effect.

Hyssop (*Hyssopus officinalis*). The leaves and tops are used for Hyssop tea. This plant is also grown as a pot plant.

Rosemary (*Rosmarinus officinalis*). Rosemary tea gives relief to headaches.

Tansy (*Tanacetum vulgare*). Tansy tea is used against worms and is generally used in bitters.

Wormwood (*Artemisia vulgaris*). This is beneficial to poultry and should therefore be planted in every poultry yard.

Culture. All the herbs require a rather rich garden soil. If they are being grown for their seeds, the branches should be cut when the seed is ripe before it has a chance to fall away and scatter. When dried properly the seed should be stored. The stems and leaves, if they are to be dried, should be cut on a bright day when the leaves have matured; then tied in small bundles, dried quickly in the shade, and hung in paper bags in the attic until they are needed. They can also be kept in mason jars or tight fitting boxes. The roots should be washed thoroughly before drying. All the herbs except Lavender, Rosemary, Thyme, Sage and Wormwood, which are of a shrubby nature, should be cut back to a few inches from the ground and covered with straw or leaves during the Winter. These few plants should be cut to within 6 inches of the ground. All herbs need Winter protection.

Propagation. Most herbs are easily raised from seed. Tarragon is propagated by division of the roots. The seed should be sown

where the plants are to remain, and then the small plants can be thinned out later. It is best to plant them on a dull day and water them carefully.

Hesperis—Sweet Rocket, Damask Violet

Sweet Rocket is one of our most fragrant flowers which grows almost wild, as it has escaped from the gardens. *Hesperis matronalis* has white, flesh or lavender-colored flowers which grow in large clusters. The plants are about 3 feet high and are bushy. All of the flowers are very sweet scented and this is especially noticed in the evening. They bloom from June through September.

Uses. They are used in the border where they bloom earlier than Phlox, which they somewhat resemble. The flowers are used for cutting. The Magenta colored sorts are trying to combine with other flowers, so that the white variety is the one to grow.

Culture. They thrive in either sun or partial shade in any good garden soil. Closely related to the Cabbage, they are sometimes affected with the Cabbage worm, in which case, they should be sprayed with arsenate of lead.

Propagation. They are grown from seeds and readily self-sow.

Heuchera—Fairy Flowers, Alum Root, Coral Bells

Heucheras are among the most desirable of the smaller growing plants. There are many varieties worth growing. Of these, *Heuchera sanguinea* is most often seen. The plants are compact, bushy and grow in tufts, the flower stems growing 1½ feet or 2 feet high. The evergreen leaves look like those of a Geranium. From a mass of ornamental foliage rise graceful spikes covered with pendent flowers which assume the size of Lily of the Valley bells, of a bright coral-crimson color. It blooms about the middle of the Summer. Catalogs list white, creamy, purple and rose-colored varieties. *H. americana*, resembling the Foam Flowers and the Mitreworts, is a native of our woods.

Uses. Small clumps of Heucheras are very attractive when planted by themselves among the shrubbery where their dainty bells will not be outshone by other gay flowers. The foliage is tinted with various maroon markings during the Winter and this makes the plants valuable for the borders. The leaves are also used in vases as accom-

Left, the giant flowers of the Mallows or Hibicus, the largest flowers of the garden; *right*, Japanese Irises, the gorgeous flowers of which rival the other flowers of June.

paniments to other flowers, and the sprays of bloom make excellent cut flowers. Heucheras are perhaps most at home when planted in the rockery where they become robust and the foliage completely covers the rocks.

CULTURE. Moist, rich loam is the best soil in which to grow them. Although the plants grow for a long time in one place, the larger plants tend to grow weak very soon. These should be removed and planted elsewhere about every two years. They refuse to thrive in a stiff, clayey soil.

PROPAGATION. The plants are propagated by division in October, or seeds, which should be sown in March if a greenhouse is available. The seedlings are tiny and need not be transplanted until they attain some size.

Hibiscus—Marsh Mallow, Swamp Rose Mallow, Mallow Marvels

The perennial Mallows bear some of the largest flowers of any of our perennials and present a gorgeous sight when in bloom. They grow from 3 feet to 8 feet tall and the branches spread out over a great

area. The leaves are large and grayish green in color. The flowers resemble a single Hollyhock bloom, only they are much larger, some measuring from 6 inches to 10 inches or 12 inches across. The colors range from white with crimson centers to deep crimson, but most of the colors are soft, causing them to blend with other flowering plants. The plants begin blooming in July, but are at their best during August and September. Altogether these large Mallows present quite a tropical aspect to any planting The Swamp Rose Mallow (*Hibiscus Moscheutos*) grows 4 feet or 5 feet high, and has flowers 6 inches across of a clear rose color with a large dark eye in the center. This is a very showy plant. The Crimson-eye Rose Mallow (*H. oculiroseus*) has large, pure white flowers with a deep crimson eye. The flowers are extremely large and appear velvety. The Mallow Marvels comprise a group of especially large flowering sorts.

Uses. Mallows are hardy and adapt themselves readily to almost any planting. When grouped in masses the large plants present an extraordinary picture. They may be planted either among shrubs or used as a substitute for them. The plants are too large for the ordinary garden border because they require much room, but they can be used in large beds of mixed flowers.

Culture. Mallows prefer a moist soil although they will do equally well in dry soil, sun or partial shade The plants die down to the ground during Winter and are about the last plants to show green shoots in the Spring They grow very rapidly and do not require much care. A light mulching of the plants is good for Winter.

Propagation. They are propagated from seed which will produce blooms the first year if the seeds are sown early enough. The roots are easily divided and one can always be sure that the plants will come true to form if this method is used.

Hollyhock—Althæa

A constant, old-fashioned garden favorite ! Hollyhocks have been universally admired for hundreds of years They are stately, majestic, towering plants that add beauty wherever they are grown. What other plant has so stately a habit or so many clear, lovely colors ? In single plants or in masses against walls or buildings, in groups at the back or rear of the perennial border, interspersed with low shrubbery or in bold masses along drives or walks, they are alike effective Many fine plants will give their fullest effects the first year, so they are planted to advantage in the newly made garden when the trees and shrubs are low and the general effect is too bare of color and foliage.

There are singles and doubles. The doubles are popular, but the singles are always admired because of their simple beauty and individuality. A group of well grown Hollyhocks in bloom is worth going to see. It is really the color that we look for, because the leaves are large, coarse and grow mostly in clumps at the base of the plant. The long spikes of flowers grow from 5 feet to 8 feet high and there are usually from five to nine blossoms in bloom on each well grown stalk. The average size is about 2 inches or 3 inches across, but 5-inch blooms can be had if good attention is given. The colors range from white to almost black and include shades of pink, flesh, rose-pink, salmon-rose, golden yellow, canary-yellow, dark red, purple-crimson, dark maroon, white and combinations of practically all these colors with either white centers or white margins. The blooming period is from late June through September. Fringed petaled sorts are catalogued as Allegheny Hollyhocks and are exquisite. There are also annual sorts which may be depended upon to bloom the same year they are sown.

Uses. Hollyhocks at the present time have a great landscape value to hide unsightly places, to work in the border, or among the

Tall Hollyhocks to greet us through the open window.

trees and shrubs. They are also used for cut flowers, but wilt very rapidly.

Culture. They require a deeply dug, well-drained soil made up of equal portions of good loam and leafmold. Well decayed manure is good also to mix in the soil. They should be planted in a warm place and given plenty of water during dry weather.

Propagation. As the seeds ripen in August they should be sown in light soil and the seedlings grown in coldframes during the Winter. The ground should be well prepared and the plants put in just as early as the ground can be worked. Hollyhocks self-sow very rapidly.

Diseases. Hollyhocks, where grown for a number of years in the same place, are troubled with a rust. It causes little trouble, however, among vigorous young plants. A mixture of lime and sulphur blown under the leaves will prevent any serious outbreak. Bordeaux mixture is also effective. Badly infested plants should be dug and burned. Keep down the growth of the Mallow-like weeds. Much of the trouble with the rust is eliminated if the seed is sown as advised in August instead of Spring.

Left, **Coral Bells or Heuchera, slender spikes of bright bells for the border or rockery;** *right*, **Blue Flax or Linum, airy, dancing, blue flowers.**

Hypericum—St. John's Wort, Aaron's Beard, Gold Flower

Literally speaking, these flowers either seem to be made of gold or to be holding the golden rays of sunlight within their small petaled cups. Real, genuine pleasure is derived by growing this plant. The St. John's Wort (*Hypericum Moserianum*) has large, deep, glistening, golden yellow blossoms, greatly resembling a single Rose, filled with numerous yellow stamens and red anthers. These flowers are borne very freely at the ends of long, graceful, reddish branches which are covered with oval, shining, smooth, deep green leaves. This plant grows from 1½ feet to 2 feet tall and the slender, spreading branches droop at the ends. The flowers are in bloom from August through October.

Aaron's Beard (*H. calycinum*) is a lower growing plant with golden yellow flowers.

St. John's Wort, the large yellow flowers of which, filled with threads of gold, are sure to be enjoyed.

Uses. The Hypericums are especially good to use as borders for shrubs or the perennial beds of flowers, or to use in rock gardens. The plants are neat growing for pot culture. The flowers are employed in decorations.

Culture. The plants do best in a light, warm, sandy soil. The flowers last longer if they are shaded slightly. All of the Hypericums are shrubby in nature, the woody growth and some of the leaves remaining on during the Winter months. New growth starts from the base of the plant.

Propagation. They are propagated from seeds, cuttings or division of the roots.

Iberis—Candytuft

Candytuft, a low growing evergreen shrub, is in reality one of the best flowers in its class. It grows from 9 inches to 12 inches high and spreads out making low mats which are covered with flat, dense clusters of the purest of white flowers. This perennial Candytuft (*Iberis sempervirens*) comes into bloom the last part of April and lasts through June. *I. gibraltarica* is the largest of the Candytufts, but is somewhat more straggly in growth. It is very showy because the clusters of white flowers are deeply tinted rose lavender. The foliage of Candytuft is evergreen, which makes the plant attractive throughout the year. This is the larger and showier of the two species, but is not as hardy.

Uses. Candytuft, besides being one of the best white flowers for cutting, is also invaluable to use in rock gardens, to cover bare spots, to use in beds. Candytuft, with its evergreen foliage, is one of the best plants grown for edging purposes. Some of the varieties are fragrant, which makes them more useful as cut flowers. The plants are used in hanging baskets, porch boxes and are grown as pot plants.

Culture. The plants form a dense mat and when once established should not be moved. They do best in the sunshine. A moderately rich soil and plenty of water are the most important requirements. If the true *I. gibraltarica* is grown, it will need careful protection in the northern states.

Propagation. Those plants grown from seed, are usually straggly the first year. They are easy to raise from seed, which germinate in two weeks, but the best plants are obtained from cuttings which root easily. Cuttings should be made in September and wintered over in a coldframe where they can be kept moist.

Iris—Flag

It is a peculiarity of an Iris lover that he does not like to have an Iris called a Flag, although most persons call these flowers by that name. With the advent of new varieties the Iris is gaining in popularity from year to year. A national society honors this flower and many cities have Iris clubs. The exquisite colors and the unrivaled form have attracted many flower lovers. A collection of the varieties is a veritable rainbow of soft colors.

Bearded, or German Iris. The most cultivated group of Irises are the bearded sorts, all of which have thick, fleshy, underground

stems rendering their increase most easily accomplished. They are remarkably well adapted to different situations. They do well in hot, dry, sunny places as well as the cooler and damper spots. In the shade they are not at their best. They require frequent transplanting, as the clumps soon become too thick.

Japanese Iris. Gorgeously colored and giant ni size the Japanese Iris (*I. lævigata*) will become more popular in the future, for now the Japanese names have been translated and the flower buyer may be sure of the sort he buys from the nurseryman. Unlike most Bearded Irises, the Japanese Iris is a flat bloom, the leaves are narrower and the rhizomes are smaller and more compact. They delight in water when in bloom but not at other times during the year.

Siberian Iris. For the margins of pools, where the soil is a trifle too damp for other flowers, the Siberian Iris (*I. sibirica*) thrives. It will not succeed with its roots in water, however. The flowers are rich purple, light lavender, blue or white, and like the Japanese Iris, these flowers are without the prominent beard found in the Bearded Iris.

Water Iris. There are two common sorts of Iris which may be planted directly in the water; namely, the European Wild Flag (*I. pseudacorus*) and the Blue Flag (*I. versicolor*). The European Wild Flag has large, yellow flowers, the petals of which are drooping. The flowers appear among the luxuriant leaves. The Blue Flag is a familiar flower to most Americans, for what boy or girl has not gotten wet feet gathering it? Both of these sorts will thrive in ordinary garden soil without a great quantity of water.

Dwarf Iris. In April, during favorable early Springs, we are delighted with the various dwarf Irises. Growing about 6 inches tall they supplement the Spring bulbs. Especially charming are the purple dwarf sorts when planted in front of Emperor Narcissus. *I. pumila* is the dwarf bearded species; *I. verna* and *I. cristata* are beardless sorts. The latter sort is very tiny and has very slender creeping rhizomes. Being sensitive to too much moisture, it grows very well when planted upon little mounds of soil or in perfectly drained spots.

Intermediate Iris. Hybridists have crossed the tall Bearded Iris with the dwarf bearded sorts to produce a group intermediate in season and height between the two parents.

Uses. The use of Iris has been suggested in the foregoing paragraphs. It is an excellent border subject and for home use the flowers are attractively arranged in our rooms. There are wet soil sorts, tall varieties, very early kinds and all types of bloom to attract each of us.

CULTURE. The simple, let-them-alone, culture of the Iris is gratifying to the home owner who is not a careful gardener. They do not like water upon their crowns in Winter, except where noted. The bearded sorts are said to like lime; the Japanese Iris does not prefer a limestone soil.

PROPAGATION. Merely cut up the old clumps to propagate them. Each piece will grow, even if allowed to lie about the garden for a week without planting. The Bearded sorts increase rapidly and should be divided every three years.

Lavandula—Lavender

Sweet Lavender is one of the well-beloved, fragrant plants of the old-fashioned garden. It was a favorite because of its delicate odor. Lavender (*Lavandula vera*) grows from 1½ feet to 3 feet high, has downy, silvery gray foliage and long spikes of blue lavender flowers. It blooms from July through September and produces flowers very freely. There are two dwarfer varieties: *L. nana compacta* with large blue flowers, and the Munstead Lavender with dark blue flowers, both of which grow 12 inches high and bloom several weeks earlier than the type. *L. spica*, the common Lavender, is dwarfer and has light colored flowers.

USES. Many persons make small sachet bags to put among linens by drying the leaves and flowers in the Summertime. Because of the gray foliage, Lavender is used to great advantage in borders. It is also grown for low hedges, or on dry banks and in the rock garden. The flowers are good for cutting.

CULTURE. Lavender requires a sunny situation and light soil. Slight protection during the Winter months is also needed.

PROPAGATION. Young plants are easily started from seeds sown early in the Spring. They should not be sown too deeply, and after the plants appear, they should be kept shaded and moist until real strong.

Liatris—Blazing Star, Kansas Gay Feather, Button Snake Root, Devil's Bit

Liatris is a rather odd plant and merits a much more general use because it is very desirable and attractive. The Kansas Gay Feather

(*Liatris pycnostachya*) is the one most commonly grown and is one of the choicest ones to grow. It grows in long spikes, 4 feet to 5 feet tall, which are densely covered with slender, grass-like leaves of a light green. The small flowers are a light rosy-purple, a color which does not harmonize readily with all other colors. A peculiar habit of the Liatris is that the succession of bloom is from the top downward, rather than from the lowest blooms up to the highest as in all other spike flowers. They bloom in August and September. The Button Snake Root (*L. spicata*) and *L. scariosa* are two other fine species, both producing deep violet-purple spikes of flowers but not growing so tall as the Gay Feather. There are also lighter shades of purple and white varieties. There is hardly any perennial which will attract as much attention as does the Liatris because it is so different and unusual.

Uses. Liatris is a splendid border plant to use at the back of the border, but the color is one which goes with few other flowers and should be subdued with white flowers. The plants have great attraction for butterflies and bees.

Culture. Liatrises will thrive in places where scarcely anything else will grow. They will grow in any soil or shade. but prefer a moist soil and partial shade.

Propagation. They are propagated from seed sown in the Autumn, or by division of the tuberous roots.

Linum—Perennial Flax, Golden Flax

Flax is a lovely, airy plant with flowers of yellow, blue and white. The general height is from 12 inches to 18 inches. The foliage and flowers are very delicate and graceful and present the appearance of a small, feathery bush. Golden Flax (*Linum flavum*) has transparent, deep, golden yellow flowers. *Linum perenne* is the tallest one of the Flax plants and has rather small flowers of a pearly blue. *L. p. album* is the white flowered variety. The flowers are borne in great numbers all during the blooming season which lasts from May through September. They have the capricious habit of blooming every other day.

Uses. Flax, especially the yellow flowered one, is very attractive to combine in plantings of Delphiniums, for both are in bloom at the same time. Flax is a dainty flower for any border because the plants bloom through such a long season. Some of the smaller plants are grown in pots and in the rock garden. The evergreen leaves and profusion of bloom offer further reasons for growing the Blue Flax.

CULTURE. Flax is very easy of culture, growing readily in any good garden soil in full sunlight.

PROPAGATION. It is propagated by seeds and division of the plants.

Lobelia

Natives of our woods, in bosky places we find two exquisite wild Lobelias, the Cardinal Flower, *Lobelia cardinalis*, and the Great Lobelia, *L. syphilitica*, a blue sort. Both sorts vary greatly in height, some growing 3 feet or 4 feet tall, other plants being hardly a foot tall. Some of the European catalogs list sorts of the Cardinal Flower which have bronze colored leaves, but these sorts are not seen in America. They bloom from July to September.

USES. They are at home in damp spots of the gardens, and along the waterside. The Great Lobelia prefers wetter places than the Cardinal Flower. When grown in dry places, they suffer from drought; they often thrive in the ordinary garden soil, but are not as tall as in

Left, **Lupines, the tall spires of blue, purple, white or pink flowers making points of interest in the border;** *right*, **Blue Lobelia, one of the charming blue natives.**

the wild places adapted to their culture. The Great Lobelia thrives in partial shade or sun but the Cardinal Flower is usually found in partial shade.

PROPAGATION. They grow readily from seed which is usually sown in the Fall, in which case the plants are wintered in a coldframe.

Lupinus—Lupine

If one is looking for a plant a little out of the ordinary, surely the stately Lupines will fill this need, for they are among the most beautiful perennials grown. *Lupinus polyphyllus* is the most popular species. It grows from 2 feet to 5 feet in height and has beautiful, long spikes of pea-shaped or butterfly-like flowers covering at least 12 inches on stems 3 feet or more high. The flowers are a clear, azure-blue, white or pink, with soft green leaves divided into small, finger-like leaflets, eight to sixteen in number. *L. p. Moerheimii* is perhaps the handsomest variety with its bright pink, rose and white flowers. The flowering spikes are produced very freely, and a border or mass of these plants when once seen in bloom, present such a showy yet beautiful picture that it is not easily forgotten. The plants tend to spread out while growing. Healthy plants are fairly covered with the spikes which bloom throughout May and June.

USES. The best effect is gained by planting Lupines in masses in the border or on the banks of ponds or streams where the tall growing spikes cast a stately reflection in the water. Lupines naturalize well in woodlands and partially shaded corners. The tall spikes are handsome for cutting.

CULTURE. Lupines, when once established, are very easy of culture, and are seldom attacked by insects. They grow in any soil which does not contain lime. The roots are large and long and readily exhaust the soil of its food materials, so each year the ground should be enriched with plenty of stable manure. It is best to grow them in moist situations, but if this is not possible they should be watered well during dry weather. Lupines dislike to be moved so they should be planted and left alone. If the flowering stalks are cut down, the plants may bloom the second time in September.

PROPAGATION. Lupines are easily raised from seed and the plants self-sow if the soil is not too dry. The seeds should not be covered deeply when planted and can be sown at any time. The plants can be divided or cuttings can be made by using the rather hardened wood, or side shoots. This should be done in the Spring.

Lychnis—Rose Campion, Mullein Pink, Flower of Jove, Double Ragged Robin, Cuckoo Flower, Corn Cockle, Jerusalem Cross, Maltese Cross, Scarlet Lightning, German Catchfly

For the different parts of one's garden there are many good varieties of Lychnis. Two of these are known as *Agrostemma*. Double Ragged Robin and Cuckoo Flower are both common names of Agrostemma, *Lynchis Flos-cuculi*. This plant, with narrow, grass-like, grayish foliage, grows from 12 inches to 18 inches high, forming a tuft, and producing many small, delicate, tassel-like flowers in short sprays of rose or soft pink, which are very attractive to the bees of the neighborhood. Ragged Robin is in bloom continuously from May through August. The Mullein Pink, Dusty Miller or Rose Campion (*L.* or *A. coronaria*) is a very striking plant. The stems and leaves are a downy, silvery gray and the Pink-like flowers are a cerise scarlet. It grows 2 feet or 2½ feet tall and is in bloom during July and August.

The Maltese Cross, Jerusalem Cross or Scarlet Lightning (*L. chalcedonica*) is a tall, loose growing plant with hairy stems and leaves. The foliage is similar to that of Sweet William and from each plant several straight, strong flower stems rise to a height of 2 feet or 3 feet and have immense heads of vermilion-scarlet flowers. This is one of the most brilliant of the old-fashioned flowers. There are white flowered forms of this species. The German Catchfly (*L. Viscaria*) grows only about 12 inches high, has dense growing, evergreen foliage and fragrant, deep red flowers. There is a sticky, viscid area below the flowers. *L. Haageana* has single, orange-scarlet flowers, shaped like those of Maltese Cross, and grows a foot tall. Most of these varieties have double forms which are really as interesting as the single ones.

Uses. All of these varieties are used for cut flowers, in perennial borders and rock gardens. They make a fine bedding plant because the period of bloom is extended over the Summer months.

Culture. Lychnis is very easy of culture. The plants like sandy, well manured loam in full sunlight. Those varieties suitable for the rockeries grow well in dry soils. These are one of the best groups of plants for withstanding droughts.

Propagation. The best method is by division of the plants in Spring, although all the varieties are easily grown from seed which blooms the second year after being sown.

Lythrum—Purple Loosestrife, Black Blood

The common Purple Loosestrife (*Lythrum Salicaria*) grows from 4 feet to 6 feet tall and blooms during the months of July and August. The foliage is willow-like and the tall, erect, graceful spikes produce brightly colored, reddish-purple flowers. The Rose Loosestrife (*L. roseum superbum*) has rose-colored flower, while Perry's variety has large and glistening cherry-red flowers.

Purple Loosestrife or Lythrum, unexcelled for waterside planting.

USES. The Loosestrife takes care of itself when planted at watersides, margins of lakes or streams. There is hardly any plant which can equal this when it is naturalized in bogs, swampy woodlands or in wild gardens.

CULTURE. These plants are moisture loving and should be planted in partial shade in low lands or in swamps.

PROPAGATION. They are propagated by stem cuttings, by seeds and division of the roots.

Lysimachia—Loosestrife, Creeping Jenny or Creeping Charlie, Moneywort, Gooseneck

Moneywort, Creeping Jenny and Creeping Charlie are all common names for *Lysimachia Nummularia*, which is a prostrate or creeping plant and grows very rapidly. It has very showy yellow flowers and blooms from May to September. The Loosestrife (*L. clethroides*) is a very showy and graceful Japanese variety. It grows 3 feet high and produces long, recurved or drooping spikes of pure white flowers from July to September. The leaves take on bright autumnal colors in the

Fall when the flowers are gone. *L. punctata* is another yellow flowered sort which is attractive. The flowers are produced in whorls around a leafy stalk.

Uses. The Loosestrife is useful for cutting for it lasts well when cut, to grow in a border, wild garden or along lake margins. There is hardly any plant which surpasses the Moneywort for covering banks, rustic urns, vases, old stumps, or to grow in hanging baskets. The plants spread very rapidly and are very showy when they are in bloom. This is a good carpeting plant for shady places under trees, but it must be admitted that it spreads rapidly and may become a weed.

Culture. All of the varieties prefer moist situations and it is because of this that they grow so splendidly on stream banks or in any kind of waterside plantings. The plants do not require any care.

Propagation. Division of the roots, either in late Autumn or early Spring, is the best method of multiplication.

Mertensia—Virginia Cowslip, Smooth Lungwort, Kentucky Blue Bells

The Virginian Cowslip is one of the loveliest of the early Spring blooming plants. In rambling through the fields and woods for Violets, large clumps of these flowers can be seen growing at random. Of the many species, this Virginian Cowslip, often wrongly called Blue Bells (*Mertensia virginica*) is the showiest of all and the one which is most easily grown. The plants grow from 1 foot to 2 feet high, with soft, light green stems and foliage. The flowers are reddish purple when in bud, but as the flowers open, they change to a lovely gentian-blue. They hang in drooping, nodding, graceful clusters and the individual flowers are funnel-shaped. It comes into bloom early; in fact, most of the growth is made before leaves come out on the trees.

Uses. The Virginian Cowslip serves its best purpose when allowed to naturalize itself in shady places. It combines well in borders, or in shaded corners where it can grow as if in its own wild habitat.

Culture. Mertensias need moist soil, preferably a rich, deep, loamy soil. Although most of the growth is made in sunlight, for it grows so early in the Spring, yet the plants should be naturalized in shady places and should not be disturbed when once planted. Mertensias are nearly always found growing in damp woods.

PROPAGATION. New plants are grown through division of the old ones.

Monarda—Bee Balm, Bergamot, Horse Mint, Oswego Tea

The lovely cardinal or scarlet red flowers of the Bee Balm have for years been one of the standbys in the old-fashioned hardy garden. The "Cambridge Scarlet" variety of *Monarda didyma* is the best one to grow, attaining a height of from 2 feet to 3 feet and blooming all Summer. The whole plant is aromatic, the leaves especially having a "minty" odor. The stems are square-angled, the leaves a dark green and the flowers a vivid scarlet. *M. fistulosa* has a lavender flower which is more compact, somewhat resembling that of the common Clover blossoms.

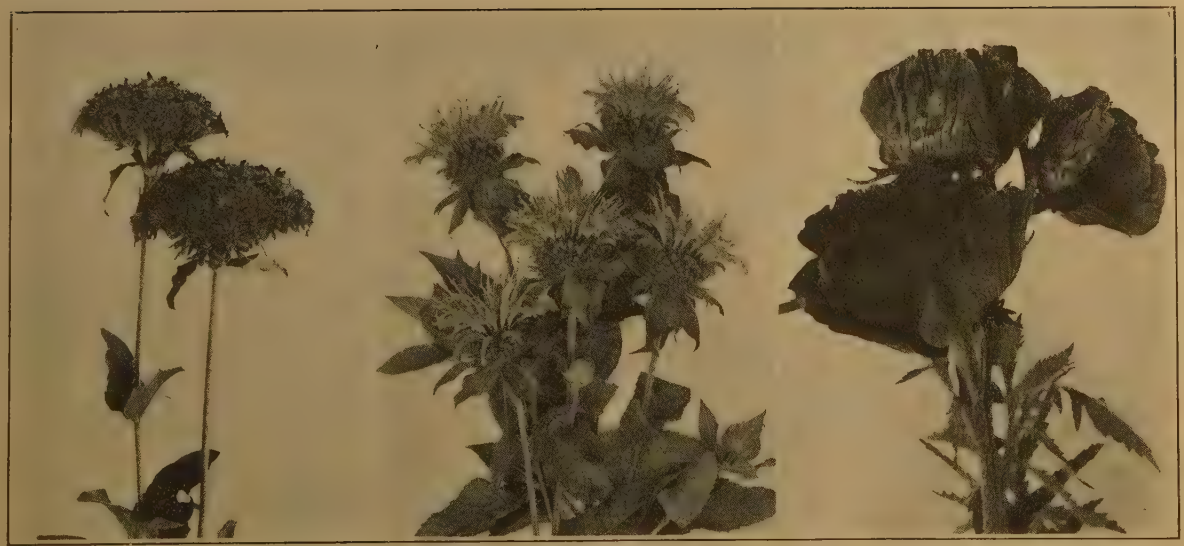
USES. The Bergamot is one of the most striking plants for borders or for massing against a background of shrubs. The flowers are used for cutting and often the leaves have been used in the place of tea. Many persons grow Bergamot just because of its "minty" foliage. It also is quite an attraction to humming birds and bees.

CULTURE. Bergamot forms a thick sod or mat and the plants simply refuse to be crowded out by other plants or weeds. The clumps should be divided in the Spring. Although they will grow in almost any soil or any situation, the plants are especially fine when grown near water or in moist places. The plants are easily established and are of simplest culture.

PROPAGATION. Bergamot is easily divided and new plants start readily. This should be done in the Spring. Plants can also be raised from seed.

Œnothera—Evening Primrose, Sundrops

The Evening Primroses are among the truly beautiful plants which anyone can grow in his garden. The plants grow from 1 foot to 2 feet high, spreading out and producing many satiny, Poppy four-petalled flowers of white, light rose and varying shades of yellow.



Left, Maltese Cross, a form of Lychnis, with fiery scarlet flowers of Summer; *center*, Bee Balm or Monarda, which might be called the Humming Bird Flower, as the sweet cardinal flowers are loved by every humming bird; *right*, the blazing Oriental Poppy, whose gorgeous flowers are like Spanish dancers.

Species. *Œnothera fruticosa* and its varieties, *Fraseri* and *Youngii*, have rich, golden yellow flowers produced freely from June through September. It is one of the most commonly seen Evening Primroses, growing 2 feet tall.

Œ. speciosa is the commoner white sort, of "lazy looking habit;" the unopened buds are drooping. The flowers, as they mature, gradually turn pink. The leaves are divided.

Œ. missouriensis. This startling species produces golden flowers, 5 inches across, upon low, trailing plants. The flowers are followed by large, winged seed pods, so large for the size of the plant that they seem unnatural. The foliage becomes reddish in the Autumn. This sort is sometimes catalogued as *Œ. macrocarpa*.

Œ. biennis and *Œ. Lamarckiana* are biennials which have become weeds in most gardens and for this reason they are not greatly admired although they are praised in European catalogs for their height and wealth of yellow blooms.

These plants open their flowers toward evening and close them in the morning, hence their common name. Most of them, however, are open through the day as well as during the evening.

Uses. Evening Primroses are handsome plants for the rockery, for the border and for bedding designs. The flowers are fragrant and therefore are useful as cut flowers. They are beautiful when massed in front of shrubbery or planted in the wild garden, for the clusters of flowers are very fragrant and the bees are always around them.

Culture. Œnotheras sometimes become "weeds" because the plants spread fast. They grow well in any ordinary situation, in well-drained, moderately rich soil. They need moisture and the soil should be prepared as deeply as it is possible to get good moisture. The clumps need not be transplanted often.

Propagation. Many of the species increase by producing small tufted plants at the base of the old ones. When the plants are divided it should be done in early Spring, in March or April. They are easily grown from seeds.

Papaver—Oriental Poppy, Iceland Poppy

There are Poppies and Poppies, old-fashioned ones and new varieties, and it would almost seem that they grow more dazzling and more gorgeous each year. Perhaps they are grown in a greater number

Iceland Poppy, dainty edging plants with lovely colors.

of gardens and we see their brilliant colors everywhere during the early Summer months, or perhaps, we too have learned the secret of growing these delicate silken flowers which constantly command attention. What more startling effect could be gained than by having a mass of Giant Oriental Poppies (*Papaver orientale*) stand out boldly against a dense background of dark evergreens? The colors of the named varieties range all the way from silvery white, through blush and rose pink to salmon and scarlet-crimson, each flower swaying and nodding on long, graceful stems. The Oriental Poppy blooms during May and June, grows from 2½ feet to 4 feet high and the whole plant, from the heavy, magnificent foliage to the large flower cups and seed pods, makes a majestic subject. The flowers often measure 9 and 10 inches across. Some of them have a black blotch in the center of the petals and all have a great number of purplish-black stamens in the heart of the cup. *P. o. bracteatum* is an important variety of a deep crimson-red color. The flowers are surrounded by large, leafy bracts. *Gypsophila paniculata*, *Phlox subulata* (white) or golden Alyssum are good to combine with the Oriental Poppy as a border plant.

The Iceland Poppies (*Papaver nudicaule*) are dwarfer plants, growing about 12 inches high. They are also favorites in the garden for the satiny petals of white, lemon, yellow and orange are beautifully crinkled and have a delicious fragrance. They bloom all through the Summer

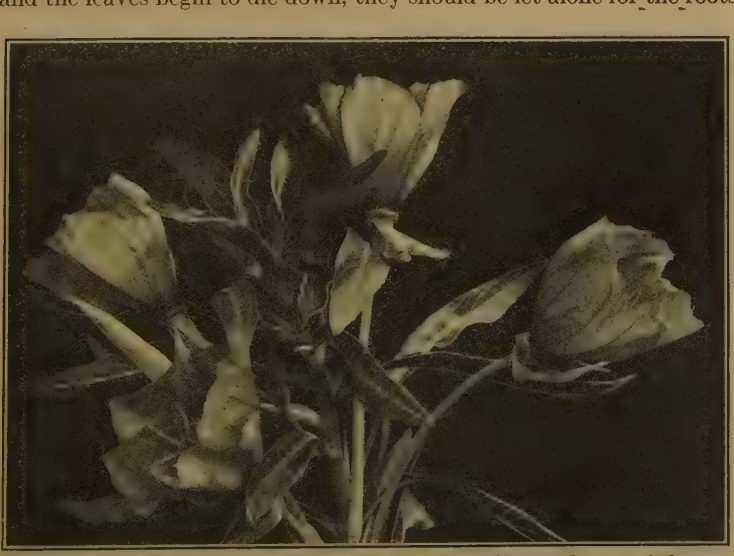
if the flowers are kept well picked, and either single or double flowered plants can be grown.

Uses. Poppies make lovely cut flowers, but unless care is exercised in cutting them, the petals will drop and they will last no time. The flowers should be cut early in the morning when the buds are tight, allowing them to open up in the water. They will last several days. The giant Oriental Poppies may be cut either early in the morning, or at evening, just as the buds are about to open. They will last longer if the outer green calyx is removed.

Poppies are used to a great extent in decorative work where daring color effects are needed.

Both the Oriental and Iceland Poppies are splendid subjects for the perennial border, but should never be planted with other plants unless the colors are carefully chosen. Both are beautiful if planted in large masses by themselves. A good combination may be made with Garden Heliotrope or Valeriana.

Culture. Oriental Poppies will grow in any open, sunshiny position in a good, deep loamy soil. They are of easiest culture and require very little care. During the dry spells in the early season, they should be watered occasionally, but after they have finished blooming and the leaves begin to die down, they should be let alone for the roots



Missouri Evening Primrose or Œnothera, one of the largest flowers of the garden. There are other charming sorts of Evening Primroses.

seem to enjoy a thorough baking during the hottest months. When the rains begin coming in September, the roots will show signs of growth; then the plants can be safely transplanted. Oriental Poppies should be mulched in the Wintertime. This mulch does not have to be removed in the Spring for the leaves soon cover it. After the plants are once satisfactorily situated they should be allowed to remain undisturbed for a number of years.

The Iceland Poppies are very easily established for they self-sow very readily. If the flowers are cut every day, the plants will produce flowers all during the Summer months. They are extremely hardy and will grow in any soil.

PROPAGATION. The Oriental Poppies should be divided in the Fall after the plants have been dormant during the hot months, or in early Spring. The roots may be cut into pieces 2 inches long and planted in sandy soil, in which case new plants may be obtained. Plants may be grown from seed, which requires a great deal of care. The seeds should be gathered as soon as the pods are ripe and begin to open. They should not be sown too thickly and should be wintered over in the coldframe. As soon as new shoots start in the Spring, pot them up, and after they have attained a good size, plant them out in the open soil from the pots.

The Iceland Poppies self-sow readily.

Peony

Peonies have captivated the world. The "old red Piney," that charming, old-fashioned flower, is hardly as popular as it was in days now past, because the new, lovely and more delicately tinted varieties, which have been recently introduced, are crowding their old relative into the background. Peonies in great masses are now found growing around the small cottage out in the village or country, along roads and woodland paths, in gardens throughout the large cities and around the mansions of the wealthy where they seem to have truly assumed that aristocratic yet charming air so in keeping with the occasion. There is no other hardy flowering plant which grows in the Northern States and endures the Northern Winters as does the Peony. Massive without being coarse, fragrant without being pungent, grand without being gaudy, various in form and color, beyond the possibility of being successfully superseded, they stand in the first rank of hardy flowers.

The genus *Pæonia* is divided into two sub-heads, the Shrubby or Tree Peonies and the Herbaceous. See index and table p. 168.

Peonies—everybody's flower.

Peonies are grown both for their flowers and beautiful foliage. From the time the red shoots first appear early in Spring, when the flowers in an almost endless number of colors are massed on the bushes, and when the glossy green foliage takes on the autumnal tints of vivid carmine, purple, amethyst and orange, Peonies are in great demand. The average height is from 2 feet to 4 feet, each plant spreading out to almost the same distance. The flowers are borne either singly or in groups of two or three. There are single blooms very much like a wild Rose, except in size; semi-double flowers and double ones which are a round mass of uneven petals. Some of the flowers are so large and heavy that it often becomes necessary to prop them up so that the Spring rains will not dash them into the mud. The leaves are smooth, dark, glossy and divided. The colors of the flowers range from purest white with a mass of golden stamens in the center through all the shades of pink to the darkest of reds and purples. There are also some pleasing yellow varieties. Many of the newer varieties are delicately rose-scented which makes them very much more valuable because the offensive odor of the early red "Piney" has been done away with. Some of the varieties do not last very long, but if early and late varieties are planted, a succession of bloom can be had which will last for six or seven weeks. The greater majority of them are in

bloom from about the middle of May on through June. The earlier blooming varieties combine well with many bulbs, especially Daffodils. Narcissi, Scillas, Gladioli and Lilies are very charming when planted in among the Peonies, while Michælmas Daisies, Delphiniums, Gaillardias and Lobelias make a very suitable background.

The Better Peonies

In Bulletin No. 7 of the American Peony Society, A. P. Saunders gives the results of a questionnaire which he sent to members. The voting was on the scale of 10. A variety receiving a rating of 10 would be of the highest quality, 7 fairly good, and below 5 not worthy of cultivation. The following varieties received a grading of 8.5 and above:

WHITE

9.9 Le Cygne
9.8 Kelway's Glorious
9.4 Mme. Jules Dessert
9.3 Festiva Maxima
9.2 Elizabeth Barrett Browning
9.1 Frances Willard
9.0 Baroness Schroeder
8.9 Mme. Emile Lemoine
Pleas' Jubilee
8.8 Alsace Lorraine
Enchantresse
Laura Dessert
8.7 Albâtre
Avalanche
James Kelway
8.6 Primevère
8.5 Marie Lemoine

PINK, ALL SHADES

9.8 Thérèse
9.7 Solange
9.4 Tourangelle
9.3 Walter Faxon
9.2 La Fée
M. Jules Elie
9.1 Lady A. Duff
Martha Bulloch
9.0 La France
Milton Hill
Raoul Dessert
Rosa Bonheur
8.9 Georgiana Shaylor
Marie Crousse
8.8 Grandiflora
Kelway's Queen
Loveliness
8.7 Claire Dubois
Mignon
8.6 Albert Crousse
Reine Hortense
Eugénie Verdier
Judge Berry
La Lorraine
Mme. Auguste Dessert
8.5 Germaine Bigot
La Perle
Mme. Emile Gallé
Maud L. Richardson
Octavie Demay
Opal

DARK RED

9.2 Philippe Rivoire
9.0 Longfellow
8.8 Karl Rosenfield
M. Martin Cahuzac
Richard Carvel
8.7 Mary Brand
8.6 Cherry Hill
Mikado
8.5 Adolphe Rousseau

Uses. Peonies can be used in almost any position in any garden. These plants are equally at home planted as single specimens on the lawn, in tall grass, in the woods, or planted in beds and borders with other perennials and bulbous plants, or when massed by themselves. Peonies can be planted along woodland paths, at the ends and edges of shrubbery groups, at the bases of stone walls, or along drives and walks. They are at home in almost any situation, naturalizing as readily in woodland copses as in formal gardens. They make a rather dense growth and are often used in place of low hedges.

As for cut flowers they are absolutely invaluable. If they are cut just as the bud is about to open and are placed in a cool room, the blooms will last many days. Since the newer varieties are sweetly scented, the flowers are now used to a greater extent in homes in vases, bowls and baskets. The stems are long, stiff and are splendid to use for decorative purposes for large functions where large flowers of rich coloring are needed.

Culture. Peonies abundantly repay good care and nourishment and do not require a great deal of care after they are once established.

Types of Peonies.

S.—Single, showing (g), guard petals; (s), stamens; (c), carpels or lobes of pistil.

J.—Japanese type; stamens wider than in single.

B.—Bomb type. The stamens become narrow petals, called petaloides.

SD.—Semi-double. Many petaloides are quite wide and are mixed among the stamens.

C.—Crown. The stamens are wider and petal-like. The carpels, which before have remained unchanged, are now petal-like.

R.—Rose. In this type there is an entire transformation of the bloom.

Preparation of the soil is one of the biggest factors in growing healthy plants. They are heavy feeders and require a deeply prepared soil. The best soil is a heavy loam, one which is not too heavy with clay nor too light with sand. Stiff yellow clay, a sour soil or an abundance of fresh manure in the soil hinder the proper growth of the roots and plant. The bed should be prepared very deeply, the soil being mixed with well-rotted cow manure. Each plant should be given a space 3 feet in diameter for its development. The soil should be retentive of moisture, yet well drained, for the plants rot out if the ground is so low that the water will stand in pools around the plant during the Winter. The manure should not be mixed among the roots, but clean soil should be next to the roots and then the manure. The roots should be set in the soil so that the top eye is not more than 2 inches or 3 inches from the surface.

When the plants have finished blooming in the Summer, work must be begun to insure a good next year's crop. Weeds should be kept down all during the Summer, for they rob the soil of its richness. The first Winter the roots are loose in the soil and will need a good coating of manure as a mulch applied after the ground is thoroughly frozen. This will prevent the roots from being heaved out of the ground, due to alternate freezing and thawing. The manure should not be allowed to remain about the plants in the Summer but worked into the soil. Diseases are spread by the presence of manure.

When once planted, Peonies should be left alone for a number of years, except for dividing and replanting, which should be done every eight or ten years.

It has been said that Peonies fade and loose their colors so readily. The delicate pink varieties fade to a white. This can be remedied by either cutting the stems when the bud is about to open, or by erecting a cheesecloth screen over the plants. This prevents the hot sunlight from bleaching out the color.

Although Peonies are free from insects, they are very subject to a pernicious bud rot. Many Peonies which do not seem able to mature their buds are affected with this disease. It can be prevented by avoiding manure about the crowns of the plants and by spraying weekly from the first signs of Spring until sometime in May. Bordeaux Mixture is the proper spray to use.

Many Peonies have two, three or more buds to a single stem. If it is a single variety they should be left as they are because the spray effect of flowers produced is very attractive. But with the large double sorts, all except the largest center bud (terminal) should be removed. This disbudding throws all the strength and food into one

flower, which is larger, finer and better in color. The buds should be removed when small.

PROPAGATION. Peonies are usually propagated by division of the clumps, but it is a slow process, taking from three to five years for characteristic blooms to appear. The tubers or roots resemble those of Rhubarb. The best time to divide them is during September or October. However, they may be divided and transplanted any time from the middle of August until the ground freezes in the Fall. If the plants are well established they will improve every year. Peonies may be propagated by seeds which are sown as soon as they are ripe in coldframes where they should be kept for a year before transplanting. The seed should never be allowed to become throughly dry, for when once thoroughly dried it may take two years or longer for the seeds to germinate. The first blooms are never typical of the plants; it takes from four to eight years to produce characteristic blooms. One must remember that growing Peonies from seed is interesting, not practical.

Pentstemon—Beard Tongue

The Pentstemons are beautiful border plants but do not do as well in the Northern States as in the Southern ones, where the climate is milder and the season of blooming is longer. They are very showy, growing from 2 feet to 4 feet high, are rather bushy and have very long, slender spikes which bear many trumpet-shaped flowers with hairy throats from whence the name "Beard Tongue" comes. The colors range from white, pale rose, azure blue, lilac, coral, scarlet, violet and purple. *Pentstemon barbatus Torreyi* has slender, deep scarlet-red flowers. The foliage is light green and the stems are wiry and thin, giving an airy appearance to the whole plant. *P. gloxinioides* Sensation has Gloxinia-like flowers of varying colors—rose, lilac, cherry, crimson and purple. It grows about 2 feet high and is in bloom nearly all Summer. *P. Digitalis* has white flowers with a purple throat, grows 2 or 3 feet high and blooms during June and July. The Pentstemons somewhat resemble the Snapdragons, both in flower and in growth. Often the flowers are two-colored, the petals being of one color and the throat of another. The flowers last from June through October.

USES. Pentstemons are very free blooming and are good for cutting purposes. Their graceful growth and variety of colors make them easily adaptable to almost any perennial border. The dwarfer ones are grown in rockeries.

Culture. A good, deep garden soil mixed with leafmold or sandy loam, in a well drained situation which is somewhat shady, is the best place to grow Pentstemons. They like plenty of water in the Summertime. Many are hardy, but Sensation requires mulching during the Winter; even then, in the colder climates it freezes out. Good drainage and loose, loamy soil are absolutely necessary to the growth of Pentstemons.

Propagation. They are propagated either by division, seed or cuttings. Cuttings should be taken in the Autumn, which is also the time to divide the roots. Plants may bloom the first year if the seeds are sown early. The varieties of *P. gloxinioides* are well treated as annuals, sowing the seed each year.

Phlox—Hardy Phlox, Flame Flower, Moss Pink, Wild Sweet William

Gardens, both old and new, cannot be what they are unless Phloxes are present in all their brilliant colors to enliven the Summer months just before the Fall flowers come into bloom and after the Spring flowers have finished. Phloxes are old-fashioned favorites and each one holds a bit of sentiment within its delicate fragrance that makes us realize that they are wonderful. With the new varieties which have been introduced during the last years, the new effects in colors, the large size and gorgeousness of bloom, they have become a class of flowers unsurpassed.

The Hardy Phloxes, which are the ones most commonly grown in all gardens, are divided into two groups, those which bloom early and are known as *Phlox suffruticosa*, and those which bloom later, known as *P. decussata*. It is these two groups which have been improved so much within the last dozen years that they have now become invaluable assets to any garden. The flowers are borne in large heads or clusters at the tips of long, graceful, leafy stems which grow from 1½ to 3 feet tall. All of the flowers are very fragrant and the colors of most of the named sorts are clear.

Varieties. The following is a partial list of Hardy Phloxes which are well worth growing:

Elizabeth Campbell. This is one of the newer and very popular colors. It has large trusses of brilliant salmon-pink blossoms with a dark crimson eye. It is a rather low and stocky growing plant but is a good, continuous bloomer.

Left, **Hardy Phlox, the range of varieties giving an excellent choice of colors;** *right,* **the Moss Pink or Phlox subulata, used to edge a walk.**

Mme. Paul Dutrie. The color is not so intense. The light salmon gradually changes to a pink which is more delicate and soft.

Coquelicot. Flowers are of a most brilliant orange-scarlet with a crimson-red eye.

Frau Anton Buchner. These flowers are very large, some being larger than a silver dollar. The entire growth is strong and vigorous. The flowers are of purest white and the trusses are of enormous size.

Le Mahdi. The color of this Phlox is a very deep and metallic bluish-violet. The trusses are large.

Rosenburg. The flowers are immense in size, of a deep carmine violet color, with a blood-red eye.

G. A. Strohlein. The enormous clusters of this plant have brilliant scarlet-orange flowers with a bright carmine eye. This color does not fade or bleach out in bright sunlight.

Bridesmaid. This is a tall and stately white flowered Phlox with a large, crimson eye.

Rynstrom (*Rijnstroom*). This beautiful colored one is a clear pink. The flowers are also extremely large, some being the size of a silver dollar.

Miss Lingard. This is one of the early sorts. The flowers are white with a dainty lavender eye. It is an indispensable variety.

Dwarf Phlox. Almost everyone knows the Moss Pink or Creeping Phlox (*Phlox subulata*). It does not look like the usual Phlox plant at all because it is dwarf, spreading in nature, with small, moss-like leaves. As it grows it forms dense mats, 12 inches or more in diameter, which flower very freely. The normal color is pink and in April and early May the clumps are simply covered with myriads of flowers about an inch in diameter.

Some of the other dwarf varieties which are good to grow are *P. amœna* with bright pink flowers; *P. divaricata canadensis*, (Wild Sweet William), with very fragrant lavender flowers and *P. d. Laphami* with larger flowers of a more intense blue-lavender.

Uses. The Moss Pink or *Phlox subulata* grows wild and blooms very early in the Spring. Because of its spreading habit it is usually found growing on the surfaces of rocks, in fields or over dry banks. In the rockery it is often planted in dry corners because it withstands drought so well, and its dense growth soon makes an admirable ground covering, especially when hundreds of small clusters of pink and white flowers come out in the Spring. It is also used as an edging for borders, in cemeteries, on terraces, between stepping stones and in a great many other places.

The Hardy Phloxes are all fragrant and the flowers are splendid for cutting purposes. With the new and striking colors, almost any effect can be carried out in the garden, either by planting them in solid beds where the colors grade into each other from dark to light, or in long beds along drives, woodland walks and paths, or in front of shrubbery; or combined with other perennials in hardy borders. By planting carefully, a succession of bloom, lasting from early April until late in September or October, can be carried out by just using the different varieties of Phloxes. The best effects are gained by planting masses of each color together.

Culture. Phloxes need a great amount of moisture and should be watered regularly in dry weather. It is even advised to mulch the plants during the dry Summer months to conserve what moisture is present. They should not be planted in the grass because the grass will get all the moisture. The soil should be prepared deeply to a depth of about 2 feet; it should be well drained and moderately rich. Since Phloxes are gross feeders, good, rich soil and plenty of moisture are absolutely necessary for their growth.

The Dwarf Phlox plants should be set about 10 inches or 12 inches apart and the taller Hardy Phloxes about 18 inches apart. Young plants can be set out any time in the Spring. If the shoots are pinched back in June or July the plants will become branched and bushy, and will go on blooming until late Autumn. It takes from two to three years to obtain good-sized and well formed plants. They should be divided and transplanted every three or four years or the blooms will begin to deteriorate and the soil will become exhausted. If the first display of flowers is cut back as soon as the blooms are faded, a second crop of bloom will come on before Fall. Phloxes will grow either in full sun or in partial shade.

During damp seasons the plants are sometimes attacked with mildew. As soon as the first signs of this appear, the plants can be sprayed with Bordeaux Mixture or if powdered sulphur is dusted on the leaves in the morning when the dew is on them, it will soon check the mildew. The latter is sometimes caused by having the plants too close together so that good air circulation around the lower stems is prevented. Red spiders also attack Phlox. This can best be determined when it is noticed that the lower leaves turn a rusty brown. A forceful sprinkling with a hose on the under side of the leaves should be applied. If, however, the attack is very severe, it is best to cut the stalks back near the ground and let new growth start.

The plants should be mulched every Winter with well decayed manure.

PROPAGATION. Phloxes are propagated by division of the clumps, which should be done every three years, for they tend to weaken in the center; by seeds, which may give many new and interesting colors and types, but usually resulting in magentas and muddy colors; by cuttings made from the stems. Dividing of the clumps should be done in the Fall or in earliest Spring before much growth has been made. Commercial nurseries propagate by root cuttings. The roots are cut into 2 inch pieces early in Spring or Fall and sown in flats, much as seeds are treated.

Physostegia—False Dragon Head, American Heather, Obedient Plant, Mexican Heath, Accommodation Flower

The False Dragon Head (*Physostegia virginiana*) is another one of the few August blooming plants. It is extremely beautiful, with spikes of rosy pink, lilac or white flowers which are tube-shaped and similar

Left, The rampant growing False Dragon Head or Physotegia; *center*, Torrey's Bearded Tongue or Pentstemon, with huge masses of graceful spikes lined with bright scarlet flowers; *right*, Chinese Balloon Flower or Platycodon, with amusing balloon-like buds.

to a tiny Snapdragon blossom. The buds and flowers grow on the stem as if growing on the four sides of a square. The plant grows about 3 feet or 4 feet high, spreads out and has very pretty foliage surrounding the graceful spikes. It begins blooming in July and lasts through September. The names, Obedient Plant and Accommodation Flower, are derived from the fact that the flowers remain at any angle at which they are turned.

Uses. This plant is splendid in a border, but because the flowers are pale, brighter contrasting colors should be worked in around it to bring the pink or lilac color out. The flowers last for a long time and are very useful for cut flowers. They are good in the border because they bloom at a time when many other flowers have finished. They are especially effective near waterfalls, along stream banks, or when placed in front of dark green shrubs.

Culture. Physostegias require a rather moist soil in either sunny or shady places. The plants spread very rapidly and will tend to become a nuisance unless they are divided every year or two. They are of easy culture and should be planted about 2 feet apart in good soil.

Propagation. These plants are easily started from seed, or new plants can be had when the plants are divided every year.

Platycodon—Chinese Balloon Flower

The Chinese Balloon Flower is very closely allied to the Campanulas. It grows erect and the stems are rigid. The flowers have five petals and open out rather flat, but when in bud they look like inflated balloons, from whence the common name is derived. The flowers are both single and double. They are blue and white in color and sometimes will have blue or white veins which makes them appear as if they had been streaked. They begin blooming about the middle of June and last throughout the Summer. The Chinese Bell Flower or Balloon Flower is known as *Platycodon grandiflorum* and grows 3 feet tall. *P. g. Mariesii* has deep blue, bell-shaped flowers, some of them nearly 3 inches across, but it is more dwarf, only growing about 12 inches high.

Uses. Platycodons are splendid border plants, for the plants are neat and well formed and they are in bloom all through the Summer months. They are also planted among shrubbery. The flowers can be cut and last well.

Culture. These plants nearly always flower the same season they are planted. They grow readily, sending up long spikes, so that nicely shaped bushes are formed in a couple of seasons. Medium sandy loam is the best soil. Do not cut the old stems back in the Fall when the blossoms are gone, but let them die away naturally so as not to injure the crown, which should be set about one inch below the surface. Slight Winter protection is beneficial.

Propagation. The most successful method is by seeds. The root stalk is fleshy and thick and a great deal of care must be exercised in dividing it.

Plumbago—Leadwort

Plumbago Larpentæ or *Ceratostigma plumbaginoides* is one of the very late blooming small border plants. Because it is such a persistent blooming plant from July until freezing weather in the Winter, it is very much valued at the time of the year when most other border plants have finished blooming. *Plumbago Larpentæ* grows about 10 inches or 12 inches high and forms a round, ball-like mass of dark

Left, **Plumbago, one of the best late blue edging plants;** *right*, **Knotweed or Polygonum, with its Buckwheat-like flowers.**

green, glossy foliage which in the Fall months is covered with trusses of lovely cobalt-blue flowers on wiry stems, which last for a long time.

Uses. *Plumbago Larpentæ* is especially useful as a rock garden plant because the foliage turns a reddish-bronze in Autumn and lasts so long that, with the deep glossy green foliage of early Spring, it makes a good all-the-year-round plant. This perennial is also used in borders and as an edging plant.

Culture. In the colder regions the plants need protection during the Winter. The plants may be taken from the ground and placed in coldframes. They grow well in sunny places and in any good garden soil.

Propagation. The plants are usually propagated by dividing the roots in Spring.

Polemonium—Jacob's Ladder, Charity, Greek Valerian

Jacob's Ladder is a very ornamental and graceful flowering plant of early Spring and Summer. The flowers are blue, or white, flat or bell-shaped, and are borne in spikes; the foliage is very finely cut, much resembling fern fronds. *Polemonium cæruleum* or the Greek Valerian is rather bushy with long spikes, about 2 feet high, of sky-blue flowers with golden anthers. *P. reptans*, a native of our woods, is dwarf, growing 6 inches or 8 inches high, with light blue flowers which come into bloom early in April. *P. humile* (*Richardsonii*) is very dainty and dwarf with small spikes of blue flowers growing from small rosettes of green, fern-like leaves. All the varieties bloom from April or May on through August or September.

Uses. Most of these plants are splendid for rockeries or in low beds and borders. The taller ones are used in front of shrubs. Some are grown as alpine subjects or in wild gardens. The flowers can be cut, and with their delicate foliage, make up beautifully for vase or basket work.

Culture. Polemoniums are very easy to grow, thriving best in dry places where the soil is rich and well-drained and with some shade.

Propagation. These plants are propagated easily from seed sown in the Fall or by dividing the plants.

Polygonum—Knot-Grass, Knot-Weed

The Knot Weed is a very ornamental plant for any garden because the foliage is so beautifully tinted in Autumn. Some of the varieties grow very high and greatly resemble Bamboo in growth. *Polygonum sachalinense* is one of this type, attaining a height of from 9 feet to 12 feet, with leaves 12 inches long and sprays of greenish-white flowers. The stems are curving or arched. *P. affine* (*Brunonis*) is the dwarf variety, growing 6 inches to 18 inches high, with bright, rosy red flowers and beautifully colored foliage. *P. amplexicaule* grows about 2 feet or 3 feet tall and has deep red flowers which come into bloom very late in September and last until October. *P. Sieboldii compactum* grows about 15 inches high, has small, glossy green leaves, and the entire plant is covered with small white flowers. Most of the varieties are in bloom from July through August.

Uses. The Giant Knot-Weed is used mostly in wild gardens or under trees, where an immense shrubby perennial is needed. The other varieties are grown in front of shrubs or herbaceous borders. Some of the dwarf ones are used in rockeries. Any of these are very effective when planted in masses, especially along banks of streams or in moist places. Some of the flowers are valued for cutting.

Culture. Some Polygonums require a great deal of space, for the plants are very large. They are moisture loving and should be planted in places where the ground is naturally very moist and does not dry out easily. They will grow almost anywhere, in any soil, and need very little attention.

Propagation. They are propagated by seeds and division of the plant.

Potentilla—Cinquefoil, Five Finger

Potentillas greatly resemble the Strawberry Plant, especially in the manner of growth and the foliage. This is a trailing plant which covers the ground rapidly and sends out roots as it goes along. The flowers are very showy, the colors are very bright, with reds, oranges and yellows predominating. These flowers are both double and single and are borne in great profusion from June to August. The single blooms look like a Buttercup or a Strawberry flower. *Potentilla atrosanguinea*, a parent of many lovely varieties, has single, rich crimson blossoms. Miss Wilmott is cerise, and William Rollison

is a combination of orange and mahogany-red with double flowers. There are a great many varieties, nearly all of which have double flowers.

Uses. Potentillas are most effective when planted in rock gardens where they can grow over large boulders of rock and need not be thinned out every year. They are excellent to plant in bare places where a good ground covering is needed, for these plants grow rapidly and soon form a thick covering.

Culture. These plants should be set about 18 inches apart in any garden soil, but they do best when planted in rich, light, loamy soil. They like exposed places and will need to be thinned out every year. There should be a light mulch of leaves placed over the plants during Winter.

Propagation. Potentillas send out roots along the trailing stems; hence, new plants are very easily obtained by thinning out. They are also easily grown from seed.

Primula—Primrose, English Cowslip, Oxlip, Polyantha

Hardy Primroses are showy plants which fit in well with any Spring bedding design. The small flowers are graceful and dainty and the varieties can be so chosen that they will be in bloom from April for a month. Primroses grow from 6 inches to 18 inches high and have light green, hairy leaves. The colors of the hardy sorts range from white to the darkest crimson and yellow. Some of the varieties are double, and others present this appearance because the petals are wavy and crinkled. The hardy sorts of Primroses are derived from *Primula elatior*, *P. veris* and *P. vulgaris*. These are much of one type, the flowers being borne in umbels or clusters of six to twelve flowers. There is, however, another interesting species, *P. japonica*, the Japanese Primrose, which bears the flowers so that one umbel, or cluster, is above another. The colors vary from rich dark crimson through the intermediate tints to white. The petals are of a heavy texture and waved. Almost all the varieties of Primroses are worth growing and wherever planted, they increase in beauty and interest with each succeeding year.

Uses. Primulas make delightful subjects for the rock garden, edging a shady border or against old walls. They naturalize readily along streams, woods or shrubbery and are also suited for growing in porch boxes or in pots. The flowers are fragrant and make splendid cut flowers.

CULTURE. Primulas are not difficult to grow, yet they reward one for any amount of trouble. One of the first requisites is to keep the soil moist. The plants will die if they are allowed to pass through the dry Summer months without plenty of water. Primroses should be planted in rich, well drained soil in a shaded nook in order to protect the plants from the hot sunshine during the Summer. Slight protection during Winter is needed, such as a light mulching of leaves and straw. In the Fall, if the crowns of any of the plants are above the surface of the soil, these plants should be taken up and reset. Primroses resent a great deal of cultivation; good, rich soil, partially shaded quarters and plenty of moisture are all they need.

PROPAGATION. Primroses are usually propagated by seeds sown in March in a coldframe or in May to July outdoors in shaded places. The seed should just be scratched into the surface soil and firmed. The plants can also be divided early in Spring or in the Fall.

Pyrethrum—Pink Daisy

The form of the Daisy is admired by all, so that it is strange that more persons do not grow the lovely Daisies known as Pyrethrums.

Primroses. A mass to tempt us to imitate it.

The flowers are bright in color and are borne on long stems. They might be called Spring Chrysanthemums, for they bloom principally in June. Many of the sorts are attractively doubled. The colors range from deep rich crimson to light pink and white. They grow 2 feet to 3 feet tall. The proper botanical name is *Chrysanthemum coccineum;* the catalogs also call them *Pyrethrum roseum* and *hybridum.*

Uses. The English are so fond of these flowers that they have many named varieties. Of Pyrethrums *The Ladies' Field* writes:

"Amongst the most satisfactory of all the flowers in the garden we may count double Pyrethrums. They are of almost infinite variety, which time seems powerless to wither, and which custom never stales. Nearly every year sees some new development, the result of skillful raising and discriminating selection. They have many good qualities to recommend them. These flowers are extremely showy, and are as hardy as they are effective. They are of the easiest possible culture, and as cut flowers they are invaluable, lasting for full two weeks in full and fresh beauty. This, when one is away from one's own garden and has to barter for flowers for the good contentment of the moment, is a great desideratum. In the borders they last for several months. Pyrethrums are in their height of beauty in June, but by means of judicious thinning and stopping, and by the entire prevention of the formation of anything like seed, they may be kept blossoming all through the Summer. If this be too much trouble, and a continued succession is not wanted, the plants may be cut right down after their Midsummer blossoming, when they will spring up again with rejuvenated vigor, and blossom gaily again in the Autumn as vigorously as if it were their first effort for the year."

Culture. The Pyrethrums grow nicely, even in partial shade, but they must have perfect drainage. An important point in their culture is alluded to above; they should be prevented from seeding and if cut down directly after they have produced their main crop of bloom, they will bloom profusely late in Summer.

Propagation. Sow the seeds or divide the plants in Spring.

Romneya—Matilija Poppy, California Tree Poppy White Bush Poppy, Dream of the Desert

A glorious miracle! Thus has the Matilija Poppy been described. With its transparent, delicate, silvery, crinkled flowers which look as if they were made of the finest white silk crêpe, would they not indeed present a glorious appearance?

The Matilija Poppy (*Romneya Coulteri*) is a native of the Southwestern States, Mexico and California in particular, but with proper care, it can be grown equally well in the Northern and Eastern States. The flowers greatly resemble a large, white single Peony. It is as

Left, **Pyrethrum or Pink Daisy. Could our illustration but show the colors of these Daisies!** *Right*, **Matilija Poppy or Romneya, a glorious miracle of silvery, silk crepe.**

large, being 4 inches to 6 inches in diameter, and has a mass of golden yellow stamens in the center of the pure white, crumpled petals. The leaves are bluish-green and are very deeply cut. This Poppy is a semi-shrub and grows from 4 feet to 6 feet high, spreading out each year until large clumps are formed. The flowers come into bloom about the end of June and last until the first of September; they are borne singly on long stems, each stem having from six to twelve or fifteen blooms. The individual flowers last about three days and have a delightful Primrose-like perfume.

Uses. The Matilija Poppy is grown in clumps in parks or gardens or in protected semi-wild places. The flowers last well in water and their delightful perfume and delicate satiny beauty make them most acceptable in any room.

Culture. These plants should be planted in warm, porous, sandy loam on a southern exposure. The soil should be free from stagnant moisture or water at all times, and especially so during the dormant season in Wintertime. Before the heavy frosts penetrate to the roots, they should be heavily mulched. After the plants are once established, they should be left strictly alone; even cultivation around the roots seems deterimental. Like herbaceous perennials, the stems die to

the ground each year and the flowers are borne on the new growth which comes each Spring.

PROPAGATION. The Matilija Poppy can be grown from seed, but this is a rather unsatisfactory method. Root cuttings are the surest way. The roots resemble thick prongs to which very few fibers are attached. Spring is the best time for transplanting.

Rudbeckia—Cone Flower, Golden Glow, Black-Eyed Susan

The garden's gold is greatly enhanced in Autumn by the sorts of Rudbeckias, especially the Golden Glow, which is the double form of *Rudbeckia laciniata*. Everyone knows this common perennial and admires its wealth of bloom. One of the handsomest Coneflowers is *R. Newmanii* (*speciosa*) which bears golden yellow single, Daisy-like flowers with a high purple cone in the center. It blooms from August to September and grows several feet tall. There is an interesting sort which has smooth, gray-green, Cabbage-like leaves, known as *R. maxima*. The plants grow 6 feet to 8 feet tall and bear bright yellow flowers, 4 inches or 5 inches in diameter, upon long, stiff stems. The cone at the center is often 2 inches high. Another grayish sort is *R. subtomentosa*, but in this case the leaves and stems are densely covered with hair. The flowers are brilliant yellow with a chocolate center and are borne in large clusters. This sort also blooms in late Summer and early Fall. The Autumn Sun, *R. nitida*, has rich yellow flowers in which the rays are decidedly drooping. It blooms from August to October. *R. triloba* is a biennial sort with yellow flowers which have orange or purple-brown markings and a black purple cone in the center.

R. purpurea, the Purple Coneflower, is discussed under Echinacea.

USES. The showy character of the plants make them especially useful in bold masses for the border. The Golden Glow is valued where there are outbuildings, fences, and unsightly objects to be hidden. All the sorts serve admirably as cut flowers, for the stems are long, and the blooms are lasting.

CULTURE. The plants thrive anywhere, but are especially adapted to sunny places. When many of the sorts are cut back after flowering, they will send up a second crop of flowers.

PROPAGATION. All the sorts, except Golden Glow, may be grown from seed, but the usual method of propagation is by division of the plants in early Spring. Some of the wild Rudbeckias, generally known as Black-eyed Susans, are biennials. These are raised from seed, but as they usually self-sow, further seeding is generally unnecessary.

Salvia—Sage

Many persons are familiar with the Scarlet Sage and it is of this plant that many persons will think, but we shall speak here of the hardy Sages.

Light Blue Salvias. *Salvia azurea grandiflora.* This species is one of great beauty, bearing light azure colored flowers in great profusion upon tall, slender spikes. The plants grow from 3 feet to 4 feet tall and bloom from August until frost.

The Azure Sage is charming in the Fall months.

S. farinacea closely resembles the former species, except that the calyx enclosing the flowers is a mealy white. It is, therefore, a splendid sort, the blue flowers contrasting with the grayish stems and calyxes. Some persons have said that this species resembles the Lavender, but it is, of course, without the fragrance of true Lavender. Some gardeners advise that this sort be treated as an annual, sowing the seeds each year.

S. uliginosa is also a blue sort, but the throats of the flowers are white. The plants grow 5 feet to 6 feet tall and bloom from July until frost. In general appearance it is similar to *S. azurea.*

Deep Blue or Violet Salvias. *S. nemorosa* (*virgata nemorosa*). The purplish-violet flowers are produced in dense clusters in July. The calyxes and stems become reddish. It is wise to cut the plants back after flowering, in which case they bloom again in Autumn.

S. patens is the deepest indigo-blue, a most unusual color but the flowers are not produced in great profusion. It must be treated as an annual.

USES. Most sorts of Salvias are interesting border plants where they make an attractive appearance grown in masses. They are generally good cut flowers as well.

CULTURE. Salvias, although of easy culture, require some attention. Except for *S. azurea grandiflora* they are not perfectly hardy and will need some protection during the Winter. Plant Salvias in the sun and give them from 18 inches to 2 feet on all sides. The roots of *S. patens* may be dug and wintered in a cool cellar.

PROPAGATION. Some sorts may be divided in the early Spring. *S. farinacea*, *S. patens*, and *S. uliginosa* are raised from seed sown in the early Spring, in which case, they bloom the first year from seed.

Scabiosa—Pincushion Flower

To those persons who are familiar with the annual sorts of Scabiosa, we need only say that the perennials resemble the annuals, except that the perennials have shorter florets at the center, while in the annual sorts the flowers are made up of florets of more uniform length. *Scabiosa caucasica* is the commonest perennial with flowers either light lilac blue or white. The plants grow 2 feet to 3 feet tall. The leaves are not cut as is the case with the annual sorts. It blooms from June to September. *S. japonica* grows 1½ feet tall; the flowers are violet-blue and the leaves are somewhat lobed. *S. ochroleuca* is a sulphur colored species growing 1½ feet tall.

USES. The graceful, long, wiry stems of the Pincushion Flower are attractive in the border, rising as they do from a tuft of leaves upon the soil. They are best used in the front of the border. As cut flowers they are long keeping and are easily arranged in vases.

CULTURE. They prefer well drained locations and a sunny exposure. The plants are said to prefer limestone soil. They winter over excellently unless standing in water-logged soil.

PROPAGATION. Scabiosas are readily increased from seed or by division of the plants. The strongest plants are best raised from seed. Mr. Cecil Davies writes that "in saving seed, that produced by the central flowers should be chosen." The seeds are best sown in Spring, but the plants sometimes do not bloom until the next year.

Sedum—Stonecrop

If there is a rocky spot in your garden you will desire a number of sorts of Sedums, for they are most interesting in habit, leaf and flower. Sedums are wild with us in America, but there are also many sorts in Europe and Asia.

Species. *Sedum spectabile.* Showy Stonecrop. This is one of the handsomest of all Sedums. It has pink or rosy-red flowers produced abundantly in flat clusters. The leaves of this sort, are thick and juicy, as is the case with all Sedums. The flowers open in late Summer and remain in bloom several months. The varieties Brilliant and atropurpureum are superior to the wild sort.

S. acre. Golden Moss. Wall Pepper. This low, tufted perennial spreads over the soil. The leaves are small, attractive, light green. The flowers, bright yellow in color, completely cover the plants and open in June and July.

S. Sieboldii. This sort has round, gray leaves borne in threes and pink flowers produced in September. The plants grow less than a foot tall. In the Autumn the leaves become pinkish.

The following sorts are also good and should be searched for in catalogs if one wishes to grow more of the species:

S. album, white flowers, 4 inches to 6 inches tall.

S. kamtschaticum, yellow flowers, 4 inches to 6 inches tall.

S. reflexum, yellow flowers, 6 inches to 10 inches tall.

S. sexangulare (resembles *S. acre* but leaves and plants are smaller).

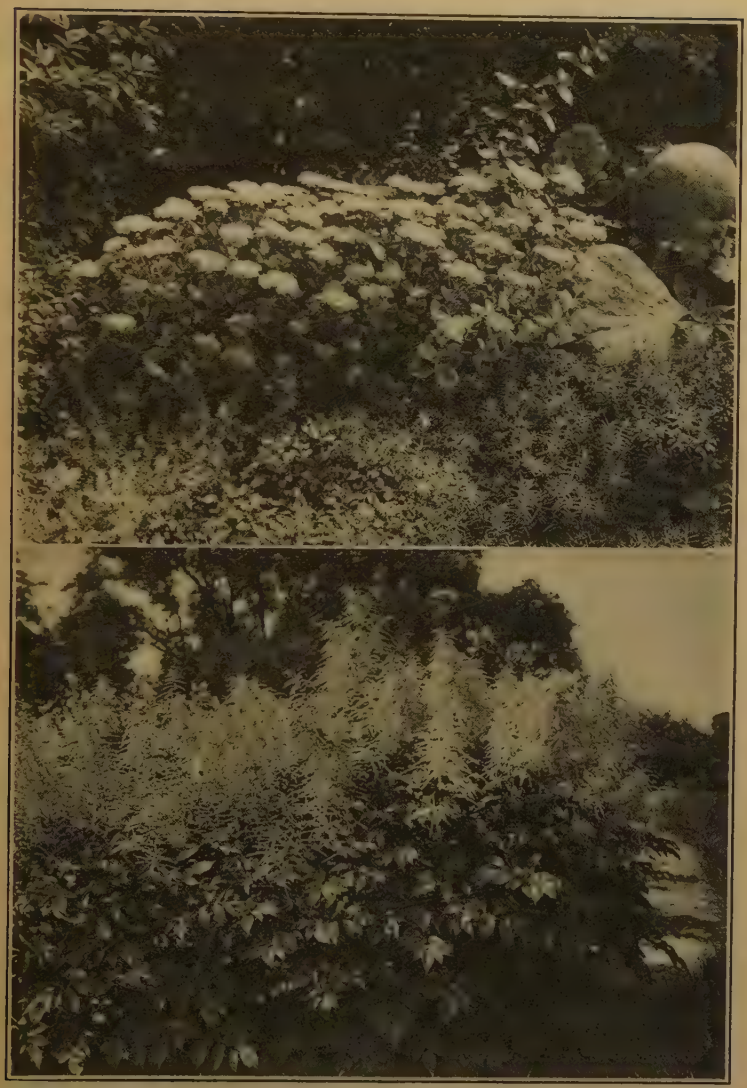
S. stoloniferum (*spurium*). Purple Stonecrop. Pink or white flowers. Trailing.

S. ternatum. White flowers. Trailing.

Uses. For perennial borders the Stonecrops are dainty and effective edging plants. As a cut flower the Showy Stonecrop is attractive. They are entirely at home in the rock garden. For planting in rock steps, between stepping stones and for a ground cover the dwarf sorts are unexcelled.

Culture. The Sedums generally prefer a sandy soil; at least it must be perfectly drained in Winter. Generally the Stonecrop thrives best in sunbeaten places, but many of them may be coaxed to grow in shaded places beneath trees and shrubbery.

Propagation. The propagation is simple: each piece of the plant may be rooted and will grow into a good plant in a short time. They also grow from seed.



Above, the showy Stonecrop, a graceful though sturdy plant for all gardens; *below*, Aruncus Sylvester or Goat's Beard, forming feathery masses of white flowers.

Spiræa—(Includes Aruncus, Astilbe, Filipendula, Ulmaria)

There is a large group of herbaceous plants of great beauty known as Spiræas but which should be properly known by other names. They are characterized by having attractive, airy plumes of flowers, in fact, every garden has a place for a few of them.

Aruncus sylvester (Goat's Beard) grows 5 feet to 7 feet tall and has feathery white flowers produced in small spikes, forming large heads of bloom. They bloom from June to July. This is the *Spiræa Aruncus* found in the catalogs. This sort is especially useful for the borders of streams in half-shaded places.

Astilbe. The Astilbe resembles the Aruncus superficially in the nature of their feathery flower spikes, but generally, as seen in the garden, they are not as tall. Perhaps the most popular group for outdoor planting is known as *A. Arendsii*, this being an improved race derived from hybridizing many other species. The varieties found in catalogs bear rose, lilac, salmon-pink and white flowers. Some of the names are: Ceres, Juno, Kriemhilde, and Vesta. The names such as *japonica*, *Davidii* and *grandis* are the species of Astilbe which are the parents of the named varieties. Large quantities of *A. japonica* were formerly imported to the United States for florist use at Easter time. A federal quarantine prohibits these plants now. The plants in the garden bloom in June, July or August.

Filipendula. Meadow Sweet. Ulmaria. The commoner species known as the Queen of the Meadows, *Filpendula Ulmaria*, is a tufted, fern-leaved plant. In late June and during July the plants send up flower stalks 18 inches tall, bearing masses of white flowers. The double sort, *flore pleno*, is more showy than the single. *F. purpurea* (*palmata*) and its variety *elegans* have red and pink flowers produced in large clusters, the crimson flower stems growing 3 feet tall. They bloom from June to August.

Use and Culture. These plants are exquisite for the border. where they lend a misty charm to almost any combination of perennials. They are superb pot plants. *Filipendula Ulmaria*, because of its dwarf growth, is useful as an edging plant. Cut sprays of all sorts add much to a bouquet in the home. They prefer a rich soil and an abundance of water while in bloom; for this reason they are well planted at the waterside. They are at home in half shade.

Propagation. The habit of growth by forming dense clumps suggests the easiest method of increasing the plants; that is, by dividing them with a strong knife.

Stokesia—Stoke's Aster, Cornflower Aster

Generally we do not think of a China Aster resembling a Cornflower, but it is true that the Stokesia resembles them both. *Stokesia lævis* (*cyanea*) is a low plant, seldom above 1½ feet tall, and with light lavender blue, white, purple and rose colored flowers produced from early July to October.

Uses. They are especially recommended for the front of a border and may be used for cut flowers.

Culture. Generally it is stated that this plant is sensitive to cold, heavy soils and seems to thrive with drought-resisting subjects, well drained in Winter. It prefers full sun.

Propagation. When raised from seed it blooms the first year.

Thalictrum—Meadow Rue, Feathered Columbine

These graceful, feathery flowers add an airy appearance to the border of perennials. The leaves are fine and resemble the foliage of

Left, **Meadow Rue or Thalictrum, altogether charming for border or base; *right*, Globe Flower or Trollius, like a Giant Buttercup of golden yellow.**

the Columbine. Some sorts are natives of our woods, but the cultivated species are superior in the size of their plumy heads.

Species. *Thalictrum aquilegifolium.* White flowers, June, 3 feet tall.

T. adiantifolium (*minus*). Yellow flowers, June to July, 1 foot.

T. dipterocarpum. Rose-purple, yellow stamens, August to September, 5 feet. Not perfectly hardy. Best stored during Winter in moss in a cellar.

T. glaucum. Golden yellow, June to July, 4 feet.

T. Cornuti. Native, white, July to September, 4 to 5 feet.

T. dioicum. Native, purplish and greenish, April to May, 1 to 2 feet.

Uses. The Meadow Rues are excellent for the border and, being refined plants, may be planted in the intimate spots of the dooryard. The cut sprays are exquisite for bouquets. *T. dipterocarpum* is a sort of recent introduction with distinct flowers having petals.

Culture. The plants do well in well drained shaded places. *T. Cornuti* is especially good for moist soil along streams.

Propagation. The plants are readily divided, but if seed is obtainable, it may be sown.

Trollius—Globe Flower

The Globe Flower is a glorified Buttercup; its leaves and flowers resemble the Buttercup in form but are larger. Improved varieties have orange, gold, orange-red and lemon-colored flowers, often double. The commonest species is *Trollius europæus*, but while all the catalogued species resemble each other in form, the seasons and the colors of the flowers differ. They grow about 2 feet tall and bloom throughout the Summer, starting in late May.

Uses. The Globe Flower flourishes, both in sun and shade, and is especially at home in borders in which the soil is a trifle too damp for other plants. They are showy border plants, their neat habit and compact flowers commend them to all. We must add that they grow nicely in the ordinary garden soil, even though it be away from the waterside.

Propagation. Although usually propagated from seeds, the plants are tardy in coming into bloom. Old plants may also be divided.

Veronica—Speedwell

When Christ was laboring beneath the heavy cross, He faltered, and a maiden, St. Veronica, rushed forward to wipe the perspiration from His brow. The impress of His face was found upon her napkin. Such is the story of St. Veronica, and because the markings of some species of Veronica resemble a face, this flower was named after St. Veronica. It is a pretty story and one we recall when looking at this flower. Veronicas are excellent border and rock garden subjects. The diversity of the species render them of use in many spots.

Veronica. The most showy sort is V. longifolia var. subsessilis, with its tall spikes of violet flowers.

Species. *Veronica longifolia subsessilis.* Japanese Speedwell. This is, perhaps, one of the most attractive of all blue-violet flowers for the border. The long spikes of bloom are 2 feet tall and are produced through July to late September.

V. spicata grows 1½ feet tall and bears either blue, pink, or white flowers in June.

V. incana seldom grows over a foot tall and besides having amethyst-blue flowers, it has gray foliage. It blooms in July and August.

V. virginica, Culver's Root, is a tall sort, 3 to 5 feet high, producing clusters of white spikes of bloom throughout July. Often called *Leptandra virginica.*

V. Teucrium rupestris and *V. repens* are dwarf, trailing sorts carpeting the soil with green and covered with pale blue flowers in May and June.

Uses. As already stated the Veronicas are superb for the perennial border and the rock garden. *V. Teucrium rupestris* and *V. repens*

are also good ground covers for dry banks or graves. The taller sorts are good for cutting, especially *V. longifolia subsessilis.*

Culture. Veronicas are of easy culture; they usually prefer moist soil. Although they grow in poor soil, some fertilizer in the form of bonemeal will increase the size of the spikes. They generally prefer full sun, perhaps with the exception of *V. virginica* and *V. repens.*

Propagation. The plants are easily divided. Seeds may be sown and some sorts root when the branches touch the soil.

Yucca—Adam's Needle and Thread, Spanish Bayonet

The stiff, broad, sword-shaped leaves of *Yucca filamentosa* are familiar to all. In Midsummer the flower stalks, rising to a height of 6 feet, are also familiar. The flowers are white and pendulous. It is a personal opinion of the writer that, except when in bloom, they are stiff, coarse and undeserving of a place in a small garden. It must be admitted, however, that they are remarkably drought-resistant and will thrive where trees rob the soil, so that more dainty plants cannot exist.

Uses. When used at all they are best planted as specimens or among shrubbery.

Culture. They will exist for a generation, and transplant with difficulty when the plants become old as the roots go deeply.

Propagation. Seedlings will bloom when four to five years old. As the plants sucker freely, this furnishes a ready means of propagation.

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(For Synonyms See Preceding Index of Plant Names)

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Achillea Eupatorium	40	4 to 5	July-Sept.	Yellow	Same as A. filipendulina
Achillea filipendulina	40	4 to 5	July-Sept.	Yellow	The tallest Achillea
Achillea millefolium roseum	40	2	Summer	Pink	Pink variety of common Yarrow
Achillea Ptarmica	40	1½	Summer	White	Double varieties best
Achillea tomentosum	40	1	June-July	Yellow	Edging plant
Aconitum bicolor	41	4	June-July	White, blue	Larkspur-like plant
Aconitum Fischeri	41	3	Oct.	Bluish-violet	Latest to bloom
Aconitum Lycoctonum	41	4	June-July	Yellow	Common yellow species
Aconitum Napellus	41	4	June-July	Dark blue	Larkspur-like plant
Aconitum Wilsonii	41	6	Sept.	Pale blue	A tall species
Adiantum pedatum	91	1 to 1½			Perhaps the most graceful hardy fern
Adlumia fungosa	42	15	Summer	Purplish	Dainty biennial climber
Adonis amurensis	43	1	April-May	Yellow	Attractive foliage
Adonis pyrenaica	43	1	May	Yellow	Do not transplant often
Adonis vernalis	43	1	May	Yellow	
Ægopodium Podagraria	44	1	July or Aug.	White	Excellent for stubborn situations
Agrostemma (see Lychnis)	122				
Ajuga genevensis	44	1	May	Dull red, blue white	Good under trees
Ajuga reptans	44	1	May	Purplish blue	Good under trees
Althæa (see Hollyhock)	112				
Alyssum rostratum	44	1	June	Yellow	Later than next species
Alyssum saxatile	44	1	April	Yellow	Excellent border plant
Anchusa italica	45	3 to 5	June-July	Deep blue	One of the real blue flowers of the garden
Anchusa myosotidiflora	45	1	Summer	Bright blue	Good dwarf plant
Anemone japonica	47	2 to 3	Aug. to Oct.	White, pink	Excellent Autumn flowers
Anemone Pulsatilla	47	¾	April	Violet	Seed heads attractive
Anemone quinquefolia	47	½	April	White	A dainty native sort
Anemonella thalictroides	31	⅓	April	White	A dainty native sort
Anthemis montana	48	2	Aug. to Sept.	Creamy white	Good cut flower
Anthemis tinctoria	48	1½ to 2	Aug. to Sept.	Golden yellow	
Aquilegia canadensis	49	2	April-May	Yellow, scarlet	Our common native
Aquilegia chrysantha	49	2½	May	Yellow	Long spurs
Aquilegia cœrulea	49	2½	May	Blue and white	Long spurs
Aquilegia flabellata	49	2	May-June	Lilac	Short spurs
Aquilegia formosa	49	2	May	Yellow and scarlet	
Aquilegia glandulosa	49	1 to 1½	May	Blue and white	
Aquilegia longissima	49	2	May	Yellow	Spurs 3½ in.-6 in. long
Aquilegia Skinneri	49	1 to 2	May	Greenish orange	
Aquilegia vulgaris	49	1 to 1½	May	Lilac, white	
Arabis albida	51	½	April	White	One of the best early Spring edging plants
Arabis alpina	51	½	April	White	
Arisæma triphyllum	31	1 to 1½	May	Purple, green	The familiar Jack-in-the-Pulpit
Armeria cephalotes	52	1	May-Aug.	Bright pink	Excellent edging plant
Armeria Laucheana	52	1	May-Aug.	Pink	
Armeria maritima	52	1	May-Aug.	Pink	
Arrhenatherum bulbosum	98	¾		Leaves green and white	A grass for edging
Artemisia abrotanum	52	2 to 3	Aug.	Greenish white	Old-fashioned favorite
Artemisia lactiflora	52	5	Aug.-Oct.	Creamy white	Bold perennial

TABULAR CULTURAL INDEX—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Artemisia Purshiana	52	1½	Aug.	White leaves	
Artemisia saccrorum	52	2	Sept.-Oct.	White	Good annual; foliage fine, fern-like
Artemisia stelleriana	52	1½	Aug.	Silvery white leaves	Another old-fashioned edging plant
Aruncus sylvester	154	5 to 7	June-July	White	The tallest of the Spiræas
Arundinaria auricoma	99	3		Leaves green and yellow	Hardy Bamboos
Arundinaria Fortunei	99	1½		Leaves green and white	
Arundinaria japonica	99	8 to 10		Leaves green	
Arundinaria Simonii	99	15		Leaves green	
Arundo Donax	98	20		Leaves green and white	The tallest grass
Asarum canadense	31	¼	April	Purple	Leaves of most superb texture
Asclepias tuberosa	53	2	July-Aug.	Orange	Very showy
Asperula odorata	54	1	April-May	White	Dainty border plant
Asphodelus luteus	55	4	June	Yellow	Deserves more attention
Aspidium marginale	92	1			A common woods shield fern
Aspidium spinulosa	92	1			A fern with finely divided fronds
Asplenium acrostichoides	92	1			An evergreen fern
Asplenium Filix-fœmina	92	2 to 3			Fine foliage fern
Astilbe Arendsii	154	1½ to 2	June-Aug.	Various	A superior group of Spiræas
Astilbe japonica	154	1½	June-Aug.	White	The old favorite of the florist
Aubrietia deltoidea	57	½	April-May	Purple	Good edging plant
Bambusa palmata	99	4		Leaves green	Hardy Bamboo
Baptisia australis	57	2½ to 3	June-July	Dark blue	Pea-like flower
Baptisia tinctoria	57	2	June	Yellow	
Bellis perennis	58	½	May	Pink-white	Excellent edging plant for early Spring
Bocconia cordata	59	6 to 8	July-Aug.	Greenish-pink	A bold, gray-leaved, tall perennial
Boltonia asteroides	61	4 to 5	Aug.-Sept.	White	Resembles wild Aster
Boltonia latisquama nana	61	2	Aug.-Sept.	Pink	Like a dwarf wild Aster
Bruckenthalia spiculifolia	102	½ to ¾	June	Light pink	One of the heath-like plants
Buddleia variabilis	61	6	June-Oct.	Lilac	Good background plant for perennial border
Callirhoë involucrata	63	½ to ¾	July-Sept.	Rosy crimson	Trailing mallow-like plant
Calluna crispa	102	1 to 1½	Aug.-Sept.	Pinkish lavender	
Calluna vulgaris	102	1 to 1½	Aug.-Sept.	Purple white	Scotch Heather
Caltha palustris	31	¾	April	Yellow	A common native plant of marshes
Campanula carpatica	64	1	June-Oct.	Blue, white	Excellent edging plant
Campanula Medium	64	3	June-July	Pink, purple, white	Very large bells
Campanula persicifolia	64	2	June-July	Blue, white	Graceful border plant
Campanula pyramidalis	64	4 to 6	Sept.	Blue	Tallest Bellflower
Campanula rotundifolia	64	1	June-Aug.	Blue	Dainty native plant
Camptosorus rhizophyllus	92				A very interesting fern which creeps over the rocks
Caryopteris Mastacanthus	65	3 to 4	Sept.-Oct.	Lavender blue	Protect in Winter
Cassia marilandica	67	4 to 5	Aug.-Sept.	Yellow	Massive perennial with pea-like flowers
Caulophyllum thalictroides	31	1 to 3	April-May	Greenish yellow	Fruits blue

TABULAR CULTURAL INDEX—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Centaurea babylonica	67	3	Summer	Yellow	
Centaurea Cineraria	67	1½	Summer	White leaves	Commonly called Dusty Miller
Centaurea dealbata	67	1½	July-Sept.	Rose	
Centaurea gymnocarpa	67	1½	Summer	White leaves	Finer leaves than Centaurea Cineraria
Centaurea macrocephala	67	3½	July-Aug.	Yellow	Tall, large flowered sort
Centaurea montana	67	2	May-Sept.	Blue, white	Good border plant
Cerastium arvense	68	1½	June-July	White	Green leaf form
Cerastium Biebersteinii	68	¾	June-July	White	Larger flowers than next species
Cerastium tomentosum	68	½	June	White	Excellent gray-foliaged edging plant
Ceratostigma (see Plumbago)	142				
Chelone glabra	69	2	Aug.-Sept.	White	Good for wet places
Chelone Lyonii	69	2	Aug.-Sept.	Rose	Good for wet places
Chimaphila umbellata	31	½ to ¾	June-Aug.	Flesh color	Evergreen leaves
Chrysanthemum, hardy	79	2 to 3	Sept.-Nov.	Various	See Daisy for other species
Cimicifuga dahurica	71	6	Sept.	White	All suited to moist, shady places
Cimicifuga racemosa	71	4 to 8	July-Aug.	White	
Cimicifuga simplex	71	2 to 3	Oct.	White	
Claytonia virginica	31	½	April	Pinkish lavender	A dainty native flower
Clematis Davidiana	72	2	Aug.-Sept.	Blue	Whorls of bell-shaped flowers
Clematis heracleæfolia	72	2	Aug.-Sept.	Pale blue	
Clematis recta	72	3	Summer	White	Large masses of flowers and foliage
Clintonia borealis	31	½	May-June	Greenish-yellow	A wild flower
Conoclinium (see Eupatorium)	90				
Convallaria majalis	72	1	May	White	The sweet Lily of the Valley
Coreopsis lanceolata grandiflora	73	3	June-Aug.	Yellow	One of the standard garden perennials
Coreopsis rosea	73	1	Aug.-Sept.	Rosy pink	A creeping Coreopsis
Coreopsis verticillata	73	2	July-Aug.	Yellow	A small flowered sort
Cypripedium acaule	31	¾	April-May	Pink	Two showy Lady Slipper Orchids
Cypripedium pubescens	31	¾	April-May	Yellow	
Daphne Cneorum	75	1	April-Oct.	Pink	A most dainty, fragrant flower
Daphne Mezereum	75	3	Feb.-April	Lilac purple	One of earliest shrubs of the garden
Delphinium hybrids	75	4	June-July	Violet, purple, orange, white	Some of the most striking garden flowers
Dentaria diphylla	31	½	April	White	A common wild flower
Dianthus barbatus	78	2	May	Various	Border plant, ages old
Dianthus chinensis Heddewigii	78	1	May	Various	Resembles the annual China Pink
Dianthus deltoides	78	¾	May	Rosy pink, white	A dainty rock plant
Dianthus latifolius atrococinneum	78	1½	May-Oct.	Crimson	Like a hardy Carnation
Dianthus plumarus	78	¾	May	Various	Indespensable edging plant
Dicentra canadensis	80	½	April	White	Dainty native plants
Dicentra cucullaria	80	½	April	White, yellow	
Dicentra chrysantha	80	1	April	Yellow	
Dicentra eximia	80	1	May	Pink	Now used as a substitute for D. spectabilis
Dicentra spectabilis	80	1½	April-June	Rose	One of the old-fashioned favorites
Dicksonia punctilobula	91	1½			A good hardy fern

Tabular Cultural Index—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Dictamnus albus	81	2 to 3	June-July	Purple, white	One of the old garden plants
Digitalis grandiflora	83	3	June-July	Yellow	The interesting yellow Foxglove
Digitalis lanata	83	3	June-July	Grayish, marked yellow	A strange type of Foxglove
Digitalis purpurea	83	3 to 5	June-July	Purple to white	The favorite Foxglove
Dodecatheon Media	31	1 to 1½	April-May	Magenta-pink	A favorite Midwest native flower
Doronicum austriacum	82	2	March-April	Yellow	Some of the earliest Daisy-like flowers
Doronicum caucasicum	82	1 to 1½	June	Yellow	
Doronicum Clusii	82	1 to 1½	June	Yellow	
Doronicum plantagineum	82	1½	June	Yellow	
Echinacea purpurea	85	3 to 4	July-Oct.	Rosy purple	Strong growing perennial for poor soil
Echinocactus Simpsonii	63	½	Summer	Pink	A globular shaped Cactus
Echinops Ritro	85	3	July-Sept.	Steel blue	Thistle-like flowers
Echinops sphærocephalus	85	5 to 7	July-Aug.	White	
Elymus glaucus	99	3		Leaves bluish green	Attractive grass
Epimedium alpinum	87	1	April-May	Yellow	Rock plants of unusual keeping quality
Epimedium macranthum	87	1	May	White tinged purple	
Epimedium Musschianum	87	1	May	Yellow	
Epimedium niveum	87	1	May	White	
Erianthus Ravennæ	100	5 to 10			A good specimen grass
Erica carnea	102	½	April-May	Pink	Heathers of great beauty
Erica stricta	102	2	Aug.	Rosy purple	
Erigeron aurantiacus	88	¾	July-Aug.	Orange	Aster-like flowers
Erigeron glabellum	88	1 to 1½	July-Aug.	Purple	
Erigeron speciosus	88	2	July-Aug.	Purple	
Eryngium amethystinum	89	2	June-Sept.	Amethyst	Prickly plants
Eryngium maritimum	89	1	June-Spet.	Blue	
Eryngium Oliverianum	89	3	June-Sept.	Blue	
Eryngium planum	89	4	June-Sept.	Blue	
Erythronium americanum	31	¾	April	Yellow, light pink	Spotted leaves; showy wild flower
Eulalia gracillima	100	5 to 7			Foliage variegated
Eulalia japonica	100	5 to 7			
Eupatorium cœlestinum	90	2	Aug.-Sept.	Blue	Like the annual Ageratum
Eupatorium perfoliatum	90	2 to 3	Aug.-Sept.	White	Excellent for wet places in a wild garden
Eupatorium purpureum	90	4 to 10	Aug.-Sept.	Purple	
Eupatorium urticæfolium	90	4 to 5	Aug.-Sept.	White	
Festuca glauca	100	1			Dwarf, gray-leaved grass
Filipendula purpurea	154	3	June-Aug.	Red to pink	A graceful, feathery sort
Filipendula Ulmaria	154	1½	June-July	White	Fern-like leaves and dainty flowers
Fraxinella (see Dictamnus)	80				
Funkia cœrulea	93	1½	July	Blue	Lily-like, shade loving plants
Funkia grandiflora	93	2	June	White	
Funkia Sieboldiana	93	2½	July	Lilac	
Funkia undulata variegata	93	1½	July-Aug.	Purple	
Gaillardia aristata	94	2	Summer	Various	Glorious, Daisy-like flowers
Gentiana acaulis	95	½	May	Blue	The pride of the connoisseur
Gentiana Andrewsii	95	¾ to 1½	Aug.-Sept.	Blue	
Gentiana crinita	95	¾ to 1½	Aug.-Sept.	Blue	

TABULAR CULTURAL INDEX—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Geranium maculatum	96	2	April-Aug.	Lavender	Wild sorts in moist woods
Geranium Robertianum	96	¾	June-Oct.	Magenta	
Geranium sanguineum	96	¾	May-July	Purple	A compact, floriferous species
Geum coccineum	97	1 to 1½	June-July	Scarlet	Bright dwarf plants
Geum montanum	97	1	Summer	Orange	
Gnaphalium (see Leontopodium)	87				
Gynerium argenteum	100	5 to 7		Silvery plumes	This Pampas grass is not hardy
Gypsophila acutifolia	101	2 to 3	July-Aug.	White	The daintiest and most graceful perennial
Gypsophila cerastioides	101	½	June-July	Pinkish white	
Gypsophila paniculata	101	2 to 3	July-Aug.	White	
Gypsophila repens	101	½	June-July	White	
Helenium autumnale	103	4	July-Sept.	Various	Superior to, but resembling Sunflowers
Helenium Hoopesii	103	2½	May	Yellow	
Helenium pumilum	103	2½	Aug.-Sept.	Yellow	
Helianthus decapetalus	104	6	Sept.	Yellow	Strong, growing perennials which shift for themselves
Helianthus Maximilianii	104	6 to 8	Sept.-Oct.	Yellow	
Helianthus mollis	104	4 to 5	July-Aug.	Yellow	
Helianthus orgyalis	104	8 to 10	Sept.	Yellow	
Helianthus scaberrimus	104	5	Aug.-Sept.	Yellow	
Heliopsis Pitcheriana	106	2 to 3	June-Sept.	Yellow	Much like Helianthus
Hemerocallis Dumortieri	106	2	May-June	Orange	Day Lilies succeeding anywhere
Hemerocallis flava	106	2½	May-June	Lemon	
Hemerocallis fulva	106	3	May-June	Orange	
Hemerocallis Middendorfii	106	2	May-June	Orange	
Hemerocallis Thunbergii	106	3	June-July	Lemon	
Hepatica acutiloba and triloba	31	½	April	Lavender, pink, white	The common Hepaticas
Hesperis matronalis	110	3	June-Sept.	White, lavender	Somewhat resembles Phlox
Heuchera americana	110	1	May	White	Dainty edging or rock plants
Heuchera sanguinea	110	1½	May-July	Crimson to white	
Hibiscus Moscheutos	111	4 to 5	Aug.-Sept.	Various	Flowers 6 in. or more across
Hibiscus oculiroseus	111	4 to 5	Aug.-Sept.	White, crimson eye	
Hosta (see Funkia)	93				
Houstonia cœrulea	31	½	April-May	Light blue	Dainty wild flower
Hydrophyllum	31	1½	May	White	A familiar plant of the woods
Hypericum calycinum	115	1	July-Aug.	Gold	Neat flowers with a tuft of stamens in the center
Hypericum Moserianum	115	1½	June-July	Gold	
Hypoxis hirsuta	31	¾	April-July	Yellow	A wild flower
Iberis gibraltarica	116	1	April-June	White	These hardy Candytufts are unrivaled for deging
Iberis sempervirens	116	1	April-June	White	
Iris barbata	116	2	May	Various	The popular German Iris
Iris cristata	116	½	April	Light blue	
Iris interregna	116	1 to 1½	Early May	Various	Intermediate in season and height
Iris lævigata	116	2½	Late May	Various	Japanese Iris, flat flowers
Iris pseudacorus	116	2½	May	Yellow	Plant in water
Iris pumila	116	¾	April	Various	The dainty edging plant
Iris sibirica	116	2½	Late May	Purple, white	Grows nicely in moist soil
Iris verna	116	½	April	Blue	
Iris versicolor	116	2	May	Blue	Can be planted in water
Jeffersonia diphylla	31	¾ to 1	April	White	Interesting wild flower
Lastrea Filix-mas	91	1½			An evergreen fern

Tabular Cultural Index—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Lavandula spica	118	1	July-Aug.	Light blue	Fragrant, rather tender perennials
Lavandula vera	118	1½	July-Aug.	Blue	
Leontopodium alpinum	87	½ to ¾	Sept.	White	The familiar Edelweiss
Leontopodium sibiricum	87	½ to ¾	Sept.	White	A larger flowered Edelweiss
Leptandra (see Veronica)	157				
Liatris pycnostachya	118	4 to 5	July-Aug.	Rosy purple	Dense spikes and grass-like foliage
Liatris scariosa	118	3 to 4	Aug.-Sept.	Rosy purple	
Liatris spicata	118	2 to 3	Aug.-Sept.	Rosy purple	
Linum flavum	119	1	May-Sept.	Yellow	Dainty, satiny flowers
Linum perenne	119	1½	May-Sept.	Blue, white	
Lobelia cardinalis	120	2	July-Sept.	Cardinal	Native plants for damp situations
Lobelia syphilitica	120	1 to 2	July-Sept.	Blue	
Lupinus perennis	121	1½	May-June	Violet blue	A wild flower
Lupinus polyphyllus	121	2½ to 3	June-Aug.	Various	Tall spires of pea-like flowers
Lychnis chalcedonica	122	2 to 3	June-Aug.	Scarlet	Flowers generally resembling Pinks
Lychnis coronaria	122	2	June-Aug.	Crimson	
Lychnis Flos-cuculi	122	1½	May	Rose	
Lychnis Haageana	122	1½ to 2	July-Aug.	Red orange	
Lychnis Viscaria	122	1½	June	Rose, white	
Lygodium palmatum	92	1 to 4			This is the charming climbing fern
Lysimachia clethroides	123	2	July-Sept.	White	A graceful perennial resembling the shrubby Clethra
Lysimachia Nummularia	123	¼	June-Sept.	Yellow	A creeping plant for shady places
Lysimachia punctata	123	2½	June-Aug.	Yellow	Showy flowers in whorls
Lythrum Salicaria	123	4 to 6	July-Aug.	Reddish purple	A tall perennial for wet places
Menziesia polifolia	102	½	July-Sept.	Rose, white	A bell flowered Heather
Mertensia virginica	124	2	April	Blue	One of the daintiest of Spring wild flowers
Miscanthus (see Eulalia)	100				
Mitchella repens	31		May-June	White	Trailing; edible red berries
Mitella diphylla	31	½ to ¾	May	White	A wild flower
Monarda didyma	125	2 to 3	June-Aug.	Crimson, purple, pink	A striking, scarlet flower
Myosotis alpestris	35	1	May-Aug.	Blue	Best for ordinary garden soil
Myosotis palustris	32	1	May-Aug.	Blue	For wet ground
Nepeta glecoma	31		April-Aug.	Blue	Wild flower, sometimes becoming a weed; trailing
Œnothera fruticosa	125	2	May-Sept.	Yellow	Fragrant flowers, opening in the evening
Œnothera missouriensis	125	1	May-Sept.	Yellow	
Œnothera speciosa	125	1	June-Aug.	White	
Opuntia arenaria	63	1	Summer	Yellow	Hardy Cacti
Opuntia Camanchica	63	1 to 2½	Summer	Yellow	
Opuntia phæacantha	63	1 to 2	Summer	Yellow	
Opuntia polyantha	63	1	Summer	Yellow	
Opuntia Rafinesquii	63	1	Summer	Tinged with red	
Opuntia vulgaris	63	1	Summer	Yellow	
Osmunda cinnamomea	91	3 to 5			A tall fern of unusual beauty
Osmunda regalis	32, 91	2 to3			Especially valuable in wet soil
Pæonia albiflora	130	2 to 3	June	Various	Everybody's flower
Pæonia Moutan		4	May	Various	The shrubby Peony

TABULAR CULTURAL INDEX—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Pæonia officinalis	130	2 to 2½	Late May	Generally red	The old fashioned Piney
Pæonia tenuifolia	130	2	May	Various	Finely cut leaves
Papaver nudicaule	128	1	April-June	Various	A dainty edging plant
Papaver orientale	128	2 to 3	June-July	Scarlet, salmon	The most brilliant Poppy
Pedicularis canadensis	31	1 to 1½	May-June	Greenish-yellow, purlish-red	A wild flower
Pennisetum japonicum	100	3 to 4		Mahogany plumes	A graceful grass
Pentstemon barbatus Torreyi	135	3	June	Scarlet	Brilliant, dainty flowers
Pentstemon Digitalis	135	2½	June-July	White, purple	Showy flowers, somewhat like a Snapdragon
Pentstemon gloxinioides	135	2 to 3	July-Sept.	Various	The handsomest of all; rather tender
Phlox amœna	136	½	June	Rose	One of the dwarf Phloxes
Phlox decussata	136	2 to 4	June	Various	The standard hardy Phlox
Phlox divaricata	136	1	May	Lavender	Good for wild gardens
Phlox subulata	136	½	April-May	Rosy-purple	A supreme rock and edging plant
Phlox suffruticosa	136	3	June	Various	The early type of hardy Phlox
Physostegia virginiana	139	3 to 3½	June-Sept.	Pink, white	Erect spikes, good for cutting
Phalaris arundinacea	101	2		Leaves variegated	The commonest ribbon grass
Phyllostachys aurea	99	15		Stems yellow	A tall growing bamboo
Platycodon grandiflorum	141	2½	July-Sept.	Blue, white	Large flowers, of great beauty
Platycodon Mariesii	141	1	July-Sept.	Blue, white	
Plumbago Larpentæ	142	1	Aug.-Oct.	Deep blue	Excellent Fall edging plant
Podophyllum peltatum	31	¾ to 1	May	White	An old favorite, native
Polemonium cæruleum	143	1½	April-July	Blue, white	Graceful plants with flowers of character
Polemonium humile	143	1	May-June	Light blue	
Polemonium reptans	143	½	May-June	Blue	
Polygonatum biflorum	31	1 to 3	May	Greenish white	A native plant
Polygonum affine	144	½ to 1½	Sept.	Rosy red	Very free growing perennials
Polygonum ampexicaule	144	2 to 3	Sept.-Oct.	Rosy red	
Polygonum sachalinense	144	9 to 12	Aug.-Sept.	Greenish white	
Polygonum Sieboldii	144	1½	Aug.-Sept.	White	
Polypodium vulgare	92	1			A fern commonly seen on steep ledges
Potentilla atrosanguinea	144	1½	June-Aug.	Various	Showy flowers upon Strawberry-like plants
Primula (Cowslip)	145	½ to ¾	May	Various	Favorite old edging plants
Primula japonica	145	½ to ¾	May-June	Crimson, white	
Pyrethrum roseum	146	2 to 3	May-July	Various	Exceedingly bright Daisies
Pyrola americana	31	½ to ¾	June-July	White	Leaves round
Pyrola elliptica	31	½ to ¾	June-July	White	Leaves elliptical
Romneya Coulteri	147	4	June-Oct.	White	Most extraordinary white, silken flowers
Rudbeckia laciniata (Golden Glow)	149	5 to 6	July-Sept.	Yellow	These flowers are characterized by their high, cone-like centers
Rudbeckia maxima	149	6 to 8	Aug.-Sept.	Yellow	
Rudbeckia Newmannii	149	3	Aug.-Sept.	Orange	
Rudbeckia nitida	149	2 to 3	July-Sept.	Yellow	
Rudbeckia subtomentosa	149	3	July-Sept.	Yellow	
Rudbeckia triloba	149	5	Aug.-Sept.	Yellow	
Salvia azurea grandiflora	150	3 to 4	Aug.-Oct.	Light blue	The hardy Sages are all interesting
Salvia farinacea	150	3 to 4	Aug.-Oct.	Light blue	
Salvia nemorosa	150	2½	July-Aug.	Deep blue	
Salvia patens	150	2	July-Oct.	Deep blue	
Salvia uliginosa	150	5 to 6	July-Oct.	Light blue	

Tabular Cultural Index—*Continued*

Species or variety	Page	Height in feet	Flowering Period	Color	Remarks
Sanguinaria candensis...	31	½	Mar.-April	White	The old favorite Bloodroot
Saxifraga virginiensis...	31	½	April-May	White	A native rock plant
Scabiosa caucasica.....	151	1½ to 2	June-Sept.	Lavender	These long stemmed flowers are good for cutting
Scabiosa japonica.....	151	1½ to 2	June-Sept.	Lavender	
Scabiosa ochroleuca.....	151	1½	June-Sept.	Yellow	
Sedum acre.....	152	Trailing	July-Aug.	Yellow	
Sedum album.....	152	½	July-Aug.	White	
Sedum kamtschaticum....	152	¾	July-Aug.	Yellow	
Sedum reflexum.....	152	Trailing	July-Aug.	Yellow	Interesting rock plants, but many sorts are good for the border
Sedum sexangulare.....	152	Trailing	July-Aug.	Yellow	
Sedum Sieboldii.....	152	¾	Sept.	Pink	
Sedum spectabile.....	152	1½	Aug.-Sept.	Rose	
Sedum stoloniferum.....	152	Trailing	July-Aug.	Purplish-pink	
Sedum ternatum.....	152	Trailing	July-Aug.	White	
Sisyrinchium angustifolium.....	31	1	June-July	Blue	The Blue-eyed Grass
Smilacina racemosa.....	31	1 to 3	May	White	A wild plant
Spiræa (see Filipendula, Aruncus and Astilbe).	154				
Stokesia lævis.....	155	1½	July-Oct.	Lavender, purple, rose, white	Resembles a Cornflower and an Aster
Thalictrum adiantifolium	155	1	June-July	Yellow	Feathery flowers unexcelled for graceful effect
Thalictrum aquilegifolium.....	155	3	June	White	
Thalictrum Cornutii.....	155	4 to 5	July-Sept.	White	
Thalictrum dioicum.....	155	1 to 2	April-May	Purplish and greenish	
Thalictrum dipterocarpum.....	155	5	Aug.-Sept.	Rose purple	
Thalictrum glaucum.....	155	4	June-July	Golden yellow	
Tiarella cordifolia.....	31	½	April-May	White	A native plant with fuzzy flowers
Tradescantia virginica...	31	1 to 3	May-Aug.	Purplish blue	A native plant for the waterside
Trillium (various).....	31	1	May	White, red	Our favorite wild flowers
Trollius europæus.....	156	2	May-Aug.	Yellow	A glorified Buttercup
Tussilaga Farfara.....	31	1	April-May	Yellow	Sometimes a weed
Ulmaria (see Filipendula)	154				
Uniola latifolia.....	101	3			Flat, drooping clusters of spikelets make this grass attractive
Uvularia grandiflora.....	31	1½	April-May	Yellow	A wild flower
Veronica incana.....	157	1	July-Aug.	Amethyst blue	Whitish leaves
Veronica longifolia subsessilis.....	157	2	July-Sept.	Violet blue	The showiest
Veronica repens.....	157	½	May-June	Violet	A trailing form
Veronica spicata.....	157	1	June	Blue	An early, upright form
Veronica Teucrium rupestris.....	157	½	May-June	Violet	A trailing form
Veronica virginica.....	157	3 to 5	July	White	A tall white
Vinca minor.....	31	Trailing	April	Purple	A native ground cover
Viola (various).....	31	½	April-May	White, purple, yellow	Favorite Violets of various sorts
Yucca filamentosa.....	158	6	June	White	Coarse evergreen with graceful flowers

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By ROBERT B. CRIDLAND, Landscape Architect

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